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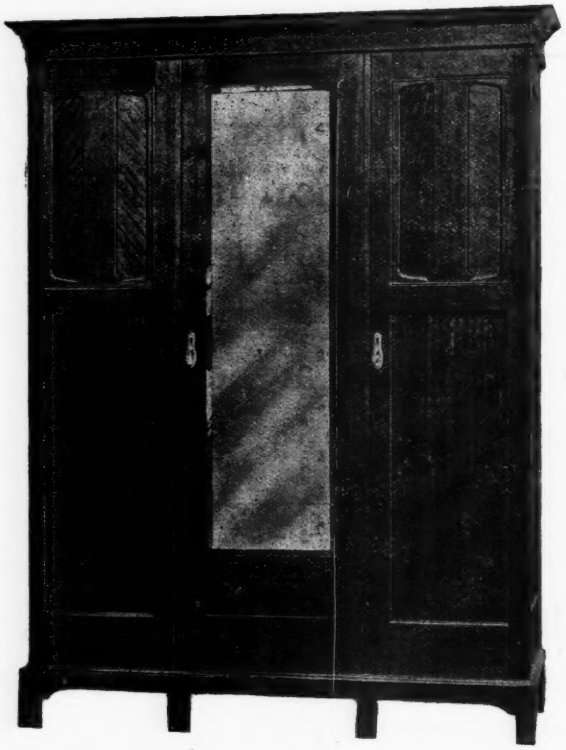

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Table of Contents

ORIGINAL ARTICLES— PAGE.

"Some Points of Interest in the Surgical Anatomy of the Arteries of the Alimentary Canal," by V. M. COPPLESON, M.B., Ch.M., F.R.C.S. .. 453

"Standardization of Hospitals of the United States and Canada by American College of Surgeons," by FRANKLIN H. MARTIN, M.D. .. 457

REPORTS OF CASES—

"An Unusual Case of Filariasis with Post-Operative Tetanus," by R. W. CILENTO, M.D., B.S., D.T.M. & H., and V. F. O'NEILL, M.B., Ch.M. .. 462

"An Unusual Case of Functional Paralysis," by A. HOLMES À COURT, M.D., M.R.C.P. .. 464

REVIEWS—

Practical Anatomy .. 465

Surgical Treatment of Dyspepsia .. 466

Dermatology .. 466

Physiology for Dental Students .. 466

LEADING ARTICLES—

The Treatment of Fractures .. 467

CURRENT COMMENT—

Hodgkin's Disease .. 468

ABSTRACTS FROM CURRENT MEDICAL LITERATURE—

Medicine .. 470

BRITISH MEDICAL ASSOCIATION NEWS— PAGE.

Scientific .. 472

Dinner to Dr. W. J. Mayo and Party .. 473

Reception to Dr. Mayo and Party .. 474

Nominations and Elections .. 474

OBITUARY—

Vincenzo Gregorio Marano .. 474

Thomas Richard McKenna .. 474

CORRESPONDENCE—

The Use of Atropine .. 475

NAVAL AND MILITARY—

Appointments .. 475

PROCEEDINGS OF THE AUSTRALIAN MEDICAL BOARDS—

Tasmania .. 475

BOOKS RECEIVED .. 475

MEDICAL APPOINTMENTS .. 476

MEDICAL APPOINTMENTS VACANT, ETC. .. 476

MEDICAL APPOINTMENTS: IMPORTANT NOTICE 476

DIARY FOR THE MONTH .. 476

EDITORIAL NOTICES .. 476

SOME POINTS OF INTEREST IN THE SURGICAL ANATOMY OF THE ARTERIES OF THE ALIMENTARY CANAL.[1]

By V. M. COPPLESON, M.B., Ch.M. (Sydney), F.R.C.S. (England),

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THE following remarks will be confined to the consideration of certain features of the arterial supply of the alimentary canal in the abdomen. The alimentary canal is supplied by three main vessels: (i.) The cœliac axis artery as far as the duodeno-jejunal flexure; (ii.) the superior mesenteric artery as far as the splenic flexure; (iii.) the inferior mesenteric artery as far as the rectum.

The General Plan of Blood Supply in the Abdomen.

Owing to its very specialized arrangement and function the bowel requires special modification of its blood supply. The blood supply must be maintained under varying conditions of distention, of contraction of the bowel wall and in certain parts of mobility and varying degrees of pressure on the mesenteries. Most of these conditions are fulfilled in what we may regard as the diagrammatic typical arrangements. A series of anastomotic loops are formed from end to end of the bowel, a short distance from the bowel wall. From these loops, *vasa recti*, short straight vessels, pass to the bowel wall. They are arranged alternately anterior and posterior and pass from the attached border transversely across the bowel, giving off branches which pass through the muscular coat to the sub-mucosa, where a rich and dense anastomosis is formed. From the sub-mucous plexus branches pass in one direction to the sub-mucosa and in the other direction to the muscle. In the human being this arrangement varies somewhat, according to whether the bowel is fixed or mobile.

When the bowel is fixed the loop lies in close proximity to the bowel wall, *exempli gratia* the duodenum (see Figure I.), the ascending and descending colons.

In these parts which are mobile, *exempli gratia* the small bowel, the transverse colon and sigmoid, the loops are away from the bowel wall. In man there is a further modification added, namely the presence of secondary and tertiary loops or arches. They are present mainly in the lower part of the abdomen and attain their greatest development in the lower portion of the ileum[(1)] (see Figure II.) where they form a very dense meshwork. They are absent or very poorly developed in most animals.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on December 14, 1923.

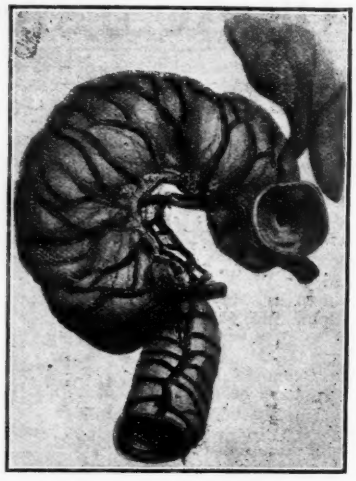


FIGURE I.
Showing the double arterial loop formed in the concavity of the duodenum and in close proximity to its walls. Note the *vasa recti* distributed alternately anteriorly and posteriorly.

It is possible that they are called forth in response to the pressure on the mesentery associated with the assumption of the erect posture.

The anastomosis between the main loops is continuous below the stomach. Experimentally it has been shown that it is possible to inject this portion of the bowel from either the superior or inferior mesenteric arteries.[2] But, although this can be done artificially, ligature of any one of the three main vessels of the alimentary canal themselves is followed by disastrous results in the living subject.[3]

Surgical experience has shown that there are four great danger points in this circuit of loops. These are: (i.) The junction of the superior mesenteric artery with the ileal branch of the ileo-caecal artery in the lower portion of the ileum; (ii. and iii.) the junction of the middle colic artery with the right and left colic arteries and (iv.) the junction between the lowest sigmoid and the superior hæmorrhoidal artery ("the point of Südeck" or "critical point of Hartmann").

The sub-mucous anastomosis is most free where contraction is strongest, *exempli gratia* in the stomach and small bowel. In three places this anastomosis is weak, in the large bowel, the lesser curve of the stomach and the first part of the duodenum. Owing to this deficient anastomosis in the large bowel it was found that end to end union after resection was often followed by sloughing of portion of the bowel wall and for this reason, amongst others, side to side union was considered the most suitable method. However, if the division of the bowel wall is made obliquely, so as to retain more of the attached than the free border, thus assuring the blood supply, end to end union is more or less free from this danger and this method is now superseding the former side to side union.[4]

The Cœliac Axis Artery.

The cœliac axis artery after a short course breaks up into its three terminal branches, the gastric or left coronary, the hepatic and the splenic. Looked at from the point of view of the stomach, a loop is formed along the lesser curve between the coronary artery and the pyloric branch of the hepatic, this loop is very frequently double; a loop is formed along the greater curvature from the right gastro-epiploic of the gastro-duodenal branch of the hepatic artery with the left gastro-epiploic branch of the splenic. The fundus is supplied from the *vasa brevia* of the splenic, an arrangement which allows but little distention or elongation of the lesser and part of the greater curve, but allows considerable elongation and distention of the fundus. These two loops take a large share in the fixation of the viscus. It is easily possible to mobilize the greater curvature by pulling on the spleen and Mayo[6] considers that mobilization of the lesser curve by division of the coronary, its branches and the lesser omentum is the greatest advance in stomach surgery within recent years. Owing to the rich sub-mucous anastomosis many of the branches of the loops and any two of the main vessels may be ligated. In the stomach clamps may be used with impunity. Experimentally it is found in dogs that a loop of intestine and a large part of the stomach can be kept free of blood for one to one and a quarter hours by means of clamps such as Doyen's, without any permanent disturbance of the circulation resulting.[3]

One of the earliest theories in regard to chronic ulcer of the stomach, first propounded by Virchow and since then resuscitated from time to time, is that of vascular thrombosis. Such causation must

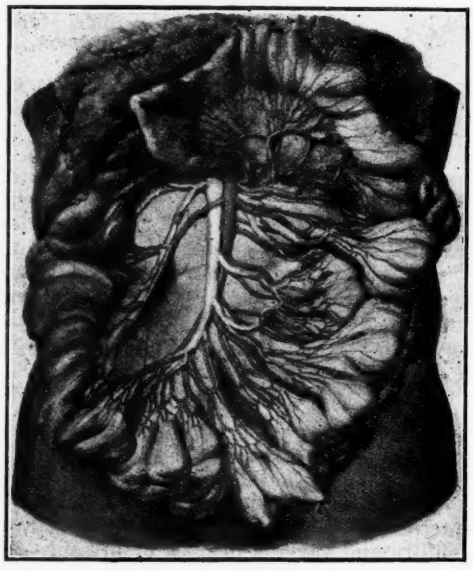


FIGURE II.
Showing arterial distribution of the small intestine and the formation of supernumerary arteries, especially in the lower portion of the ileum.

be very rare. The site of election of these ulcers is the lesser curve and Reeves[5] investigating this subject found that the blood vessels of the stomach, after piercing the muscular coat form a remarkably tortuous plexus which is particularly rich except along the lesser curve. In this site the anastomosis is poor. From the anastomosis two series of branches are given off, one to the muscle and the other to the mucosa consists of curly slanting vessels which break up into a number of small end arteries (see Figure III.). It is considered that this may render them more liable to thrombosis and it is probable that this may have some connexion with the localization of ulcers.[7] Vascular causes have also been attributed to the cause of ulcer of the first part of the duodenum. Mayo[8] first pointed out the peculiarity of the blood supply of this part and drew attention to the fact that when the pylorus was pulled into the abdominal wound during an operation an anæmic spot was visible on the anterior wall of the duodenum in the common site of the scar of a duodenal ulcer. Reeves[5] found that this site had the same peculiarity of blood supply as the lesser curve of the stomach, whilst Wilkie[9] described an artery destined to the supply of this part alone, the supra-duodenal artery of Wilkie, of variable origin which he claims to be of the nature of an end artery.

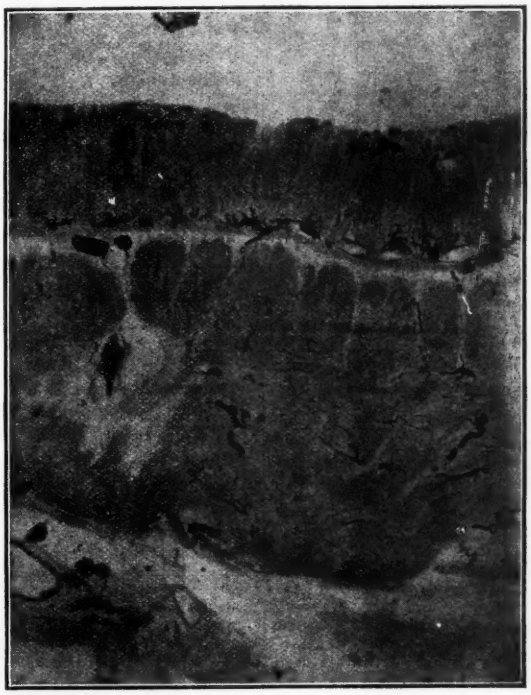


FIGURE III.
Micro-photograph of injected stomach wall showing rich sub-mucous anastomosis, branches passing in one direction to the muscle and in the other curly slanting vessels to the mucosa.

The Superior Mesenteric Artery.

The superior mesenteric artery emerges from under the curve of the head of the pancreas and crosses the duodenum. Wilkie[10] claims that pressure on the duodenum by this vessel in enteroptosis gives rise to the gastric symptoms of this affection and has described the condition as gastro-duodenal ileus.[10] Experiments show that the main branch of the superior mesenteric artery or vein cannot be ligated without infarction of the intestine. The single branches of the artery may be ligated proximal to the arches and the *vasa recti* ligated without effect. Owing to the rich sub-mucous anastomosis it is possible to sever the intestine from the mesentery for a distance not exceeding five centimetres though in dogs a length of three centimetres causes a superficial necrosis of the mucosa.[11] This superficial necrosis was found in war wounds. Cuthbert Wallace[12] writing on gun shot wounds of the abdomen mentions that in this type of injury infarction is met with in the small intestine, but is more common in the large. The caecum with the ileum and descending and iliac colons have all been found in this state.

In regard to the lower ileum, I would first like to draw your attention to the typically atypical vessels in the last few centimetres or so. Whereas throughout the small bowel the *vasa recti* pass transversely across the bowel wall from the attached to the free border, in this region a number of fine vessels are present which run longitudinally along the bowel from the ileo-caecal junction for two or three centimetres.[12] The lower few centimetres of the ileum are therefore distinctive and can readily be recognized by the presence of these vessels (see Figure IV.). Here too is the first danger zone—the anastomosis between the superior mesenteric and the ileal branch of the ileo-caecal arteries. Rather than depend on this anastomosis it is usual in resection of the caecum to resect the lower fifteen centimetres of ileum. In regard to the vessels of the appendix there is a very interesting little vessel running up in the mesentery close to the wall of the caecum which after tying off and dividing the mesentery of the appendix in the operation of appendicectomy almost invariably bleeds back from the opposite end more or less profusely until the base of the appendix is clamped.

In the large bowel owing to the weak anastomosis both in the submucosa and between adjacent loops of the main vessel, one main trunk cannot replace another and experience has shown that especially is this true in the case of the middle colic artery. It should be made an absolute rule, therefore, in all injuries of the colic arteries or in operations necessitating resection of the transverse colon, to remove any portions of the bowel in the mesenteries of which pulsation cannot be felt.[3] The middle colic artery is most liable to injuries during operations on the stomach. This vessel after its origin from the superior mesenteric has a very definite relation to the head of the pancreas which it crosses in close relation to the pylorus and duodenum to enter the meso-colon (see Figure V.). Quite a number of

cases occur in which the vessel is injured in this situation during division of the pylorus in the operation of gastrectomy. It is an important and little realized relation. This vessel may also be injured by pricks of the needle in passing sutures in gastro-enterostomy to stitch the rent in the meso-colon to the stomach. This can be obviated by passing the needle reversed, *id est* eye first through the meso-colon.

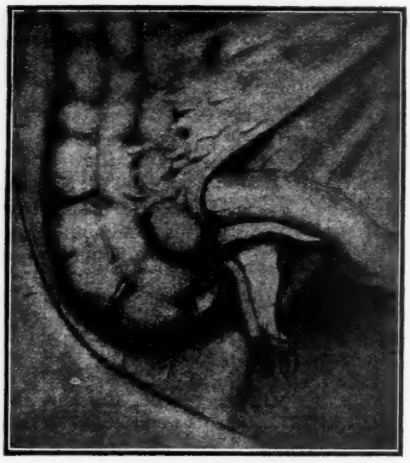


FIGURE IV.
(After Payne) Showing horizontal vessels of the terminal portion of the ileum.

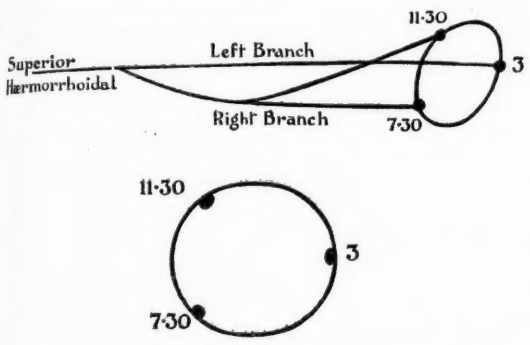
FIGURE V.
Diagram showing relationship of the middle colic artery as it leaves the superior mesenteric artery and crosses the head of the pancreas to enter the mesocolon.

The Inferior Mesenteric Artery.

Probably the inferior mesenteric artery has received more attention in recent years than any other vessel in the abdomen.[14] It arises at about the level of the second or third lumbar vertebra about five to seven centimetres above the termination of the aorta and ends at the third piece of the sacrum. The branches to the descending colon—the left colic arise in *échelon* or in a fan-shaped arrangement. The number of sigmoids is variable and the number coincides with the length of the sigmoid loop. These vessels anastomose by a series of arcades. The very definite arcade lying close to the wall of the descending colon has been named the marginal artery of Drummond. In the sigmoid loop following the general arrangement the primary loop is away from the bowel wall and a series of secondary arches is formed. The terminal branch of the inferior mesenteric is the superior hæmorrhoidal which in the pelvic meso-colon, just before it enters the rectum, usually divides into two branches. The lowest sigmoid sends a branch to join the trunk of the superior hæmorrhoidal and this is the last arcade formed in the bowel. The point of junction has been named the "Point of Südeck." Südeck in 1907 and later Hartmann while investigating the fact that operations for carcinoma of the rectum were frequently followed by gangrene of the lower segment or disunion of the resected portion of gut, found that there was a particularly defective circulation at the junction of the sigmoid and rectum. They showed that the blood supply of the rectum after ligature of the superior hæmorrhoidal was assured only by the fine anastomotic arcade which unites the lowest sigmoid to the superior hæmorrhoidal, and that ligature of the superior hæmorrhoidal below this collateral branch was followed by gangrene of the rectum, in fact that the superior hœmorrhoidal was virtually an end artery (see Figure VI.). The junction of these two vessels—the branch of the lowest sigmoid with the superior hæmorrhoidal artery—was called the "critical point," above which ligatures must be placed to assure the rectal circulation. The situation of this point varies from two to five centimetres below the promontory of the sacrum.

FIGURE VI.
(After Forgue and Milhaud) Showing the critical point of Südeck. *H* = superior hæmorrhoidal artery; *S* = the lowest sigmoid artery; *L* = the critical point of Südeck. If the ligature is placed at *B*, it will be situated too low to allow the arterial supply of the rectum.

Much has been written about the distribution of the superior hæmorrhoidal artery to the rectum. It has been stated[15] that not only is the terminal arterial distribution constant, but that these ter-



Sites of the Three Primary Piles

FIGURE VII.

minal branches have a very definite relation to the internal hæmorrhoids which may form, and that the situation of these is therefore constant. The superior hæmorrhoidal artery usually divides into two main branches which pass along the right and left walls of the rectum (see Figure VII.). The right branch divides into two main branches and these reach the anal canal in its right anterior and right posterior quadrants. The left branch terminates at the left mid-point of the anal canal. Viewing the rectum as a clock with the most anterior point as twelve o'clock, these three main branches will reach the anal canal at 3, 7.30 and 10.30 o'clock. It is here that the three main primary piles occur. From these main branches secondary branches arise (see Figure VIII.). From the left branch secondary branches are given off, which terminate at 1.30 and 4.30 o'clock with an occasional branch to twelve. From the right posterior (the 7.30) vessel, secondary branches to 9 and 6 o'clock arise. The right anterior (11.30) vessel is unbranched. In the site of these secondary branches secondary piles may form and are connected to the corresponding primary piles. Therefore, when all possible piles are developed there will be three sets. There will be one single primary pile at 11.30; a primary pile at 7.30 with two secondary piles at 6 and 9 connected to it; whilst the primary pile at 3 will have secondary piles at 4.30 and 1.30 and occasionally another at 12 connected to it. These facts appear to be closely in accordance with clinical observation.

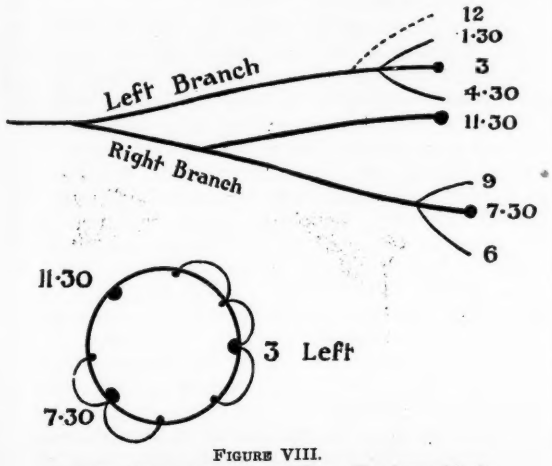


FIGURE VIII.

Showing sites of secondary piles. The large black dots indicate sites of primary piles and the small loops indicate secondary piles which may form in connexion with each primary pile.

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STANDARDIZATION OF HOSPITALS OF THE UNITED STATES AND CANADA BY AMERICAN COLLEGE OF SURGEONS.[1]

By FRANKLIN H. MARTIN, M.D.,
Director-General, American College of Surgeons.

THE American College of Surgeons, through difficulty of administration in the selection of its members, conceived the necessity of standardizing the workshops of its candidates for fellowship, the workshops wherein they must continue to render their service to the public after they become fellows of the College. Immediately, this appreciation of the necessity of a standardized workshop for surgeons made it obvious that a similar need existed in the workshop of the internist, the obstetrician and all specialists of medicine.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on April 2, 1924.

The American College of Surgeons with the enthusiasm of youth and unhampered by tradition decided to make itself responsible for the standardization of its own environment, the hospitals. This environment, the hospitals, became the subject of study. Two generations of personal sacrifice and individual effort already had placed the worthy hospitals of the United States and Canada in a position of usefulness to all grades of society.

These worthy institutions and the great churches and societies responsible for their existence at first looked askance upon the ambitious programme of the youthful society, but soon they recognized its sincerity and welcomed its disinterested aid.

In the beginning the College accumulated valuable data through conferences, correspondence and a carefully conducted research into hospital management. This information revealed three outstanding problems that required solution by any organization that hoped to aid in the betterment of hospitals, *videlicet* first the establishment of a minimum standard; second, a personal visit to each institution by a representative of the standardizing agent and, third, an accurate record of the findings of the representative that would be available to the public.

In formulating the programme which has been pursued intensively for seven years, the College has held many conferences and has consulted everyone known to be interested in hospital management and hospital betterment. A minimum standard was agreed upon, the provisions of which were fundamental. Its requirements were reasonable, its method of presentation was acceptable and the work of the investigators, because of the personal visits and the impartial manner of making the reports, appealed to the hospitals as an honest and disinterested effort to arrive at facts. The information conveyed to the public as the result of these surveys has been generally approved.

Without ostentation this movement of the standardization of hospitals has been its own propagandist. It has convinced the medical profession that a great event has been transpiring that when two or more individuals get together in harmony, even in the profession of medicine, and pursue a course of self-betterment, that the results are stupendous and the effect inspiring. Every hospital trustee, every superintendent and every nurse of the North American continent has been drawn into the vortex of this movement and each one prides himself on his part in it. The public has been consulted by a hitherto exclusive profession of medicine and has been asked to share the responsibility of aiding in the betterment of hospitals. Business men of large and small communities have learned that the profession of medicine can conduct its affairs in a business-like manner as well as wield the scalpel and administer drugs. One of the conservative philanthropic foundations, the Carnegie Corporation, after a thorough investigation of this programme for five years contributed towards its financial support a sum aggregating one hundred and fifteen thousand dollars, in addition to a sum of one hundred and eighty-five thousand dollars contributed by the College, representing a total expenditure during five years of three hundred thousand dollars.

How much easier it is to do a big thing than a little thing! Back of this movement has loomed a great ideal: Harmony of action between all peoples and a great profession dedicated to relieve suffering, to make whole the cripple and to guard those enjoying health against sickness. The profession of medicine through this movement has been able to take the people into its confidence and the public has had a glimpse of the reliability of the art of scientific medicine. The mystery has been swept away as in the parting of a veil and in the place of misunderstanding has been revealed the romance of medical accomplishment. This revelation of an ideal has brought forth a desire on the part of those who have seen, to become a part of it by rendering service under its leadership. It is not unlike the inspiration imparted by a national or a religious emblem; it has thrilled and it has compelled loyalty.

The hospital standardization movement of the American College of Surgeons is destined to reach far into the future. History will record that with the beginning of this event curative medicine and the people entered into an understanding with each other; that this understanding revealed the profession of medicine as the legitimate conservator of health and the hospital as the laboratory in which the most serious part of its work can safely be accomplished.

The American College of Surgeons has just completed the sixth annual survey of hospitals in the United States and Canada. The results of this survey give evidence of steady progress toward hospital betterment and increasing interest in the hospital standardization movement. Not only are the medical profession and the hospital people themselves vitally interested, but the public is developing a widespread belief in this effort for improved and highly efficient care of the sick.

Since the year 1918, when the American College of Surgeons first actively undertook the standardization of hospitals, there has gradually developed a new era in hospital service. This era is characterized by the development of more efficient institutions standing for the utilization of every means known to medical science for the best possible care of the patients. A definite standard has been established whereby hospitals may measure their efficiency in terms of service to the sick and end-results. The standard is now well beyond the experimental or trial stage. After six years of its application in large numbers of institutions on this continent those charged with its promotion find no reason for altering any of the procedure laid down therein. This standard is based on a service so broad as to embrace the activities of every person who has anything whatsoever to do with the care of the patient—the hospital "perspective"—on whom the accumulative services of the institution must be focussed. Every person in a hospital organization,

no matter what their status may be, has a definite responsibility and share in the proper care of each individual patient and in the obtaining of the best possible result.

What Hospital Standardization Is.

Hospital standardization is an international movement including in its scope all general hospitals of fifty beds and over in the United States and Canada. It is carried on by the American College of Surgeons whose membership includes at present over 6,200 surgeons in both countries as well as a number from South America. One of the outstanding features in the progressive programme of the College is the movement for better hospital service, more widely known as hospital standardization. This movement through the application of its inherent principles and by means of an annual survey aims at establishing and maintaining in hospitals an organized personnel working as a group in the best interests of the patient. It demands that there be provided the necessary facilities for scientific diagnosis and treatment and that these facilities be utilized under competent direction. It requires that there be a careful and accurate recording of all data concerning each patient. This is necessary in order that there be a thorough study and investigation of each case to insure (*a*) an early, accurate and comprehensive diagnosis; (*b*) the correct and effective treatment; (*c*) the best possible end-result. It is the desire of the College that through the carrying out of this programme every individual requiring hospital treatment, regardless of race, colour, creed or social status, shall receive the benefits of the most up-to-date and scientific procedures known to modern medicine. This is a humanitarian service with the basic idea that our hospitals are conducted entirely for the benefit of the patient.

There is no desire to interfere with the individual initiative of any hospital. The standard set is the minimum requirement. Each institution is encouraged not only to reach that standard but go as far beyond it as possible. The requirements laid down are fundamental. They are the basic principles which are absolutely necessary to make the hospital a scientific institution, capable of rendering the best service to the patient, to the public and to the profession.

The minimum standard sets forth certain clear cut and definite requirements which deal chiefly with the conduct of the hospital in the interest of the patient. These requirements may be briefly summarized as follows:

The Organization of the Medical Staff.

A hospital meeting the minimum standard must have a competent and ethical medical staff to which certain duties are assigned as follows: (*a*) The drawing up of rules and regulations governing the professional work of the hospital; (*b*) the supervision of the professional activities of the hospital in order that the highest degree of efficiency may be maintained; (*c*) the carrying out of staff conferences at regular periods and (*d*) the rendering of every assistance possible to the administration or management in the development and promotion of the professional work of the institution.

The Providing of Case Records.

In order to insure competent and satisfactory investigation and results in every patient coming under treatment in a hospital, it is absolutely necessary that accurate records be provided. "A hospital without records is like a clock without hands, still running but providing no information to tell whether it is right or wrong." An accurate record is of inestimable value not only to the patient, the doctor and the hospital, but also in the advancement of scientific medicine and research. Our hospitals owe to future generations records of present experiences. What we know of scientific medicine has largely been left to us by the masters of the past. A physical accounting is required in every thoroughly competent hospital, otherwise the institution is operating blindly without any definite realization as to its actual efficiency. This accounting can be carried out only when the findings, the facts and conclusions on every case are properly recorded. Moreover, the record must have behind it the spirit of honesty and sincerity and be a filtration of scientific facts leading to a definite conclusion.

The Providing of Diagnostic and Therapeutic Facilities.

In this regard special reference is made to the laboratory and X-ray services. Those departments, when efficiently organized and under competent direction, are of inestimable value both in making a diagnosis and in carrying out treatment. The minimum standard does not only require that these facilities be available for the benefit of the patient in the hospital, but that they be competently and scientifically utilized whenever required.

Why Hospital Standardization Was Commenced.

The American College of Surgeons was founded in 1913 with high ideals and certain professional requirements for fellowship. Very early the surgeons found that their working environment in the hospitals was not in keeping with the ideals and objectives set forth by the College. Many hospitals at that time were lacking in a practical standard of efficiency. A careful consideration of the situation revealed the fact that the hospitals of the United States and Canada, generally speaking, lacked organization, satisfactory case records and competent facilities to assist the doctors in carrying on their work. There was not satisfactory cooperation of the profession or the various groups working in the institition. Consultations were few and records incomplete. Any analysis or check-up of the work was lacking in most instances. Owing to these deficiencies candidates who were endeavouring to comply with the requirements for fellowship in the College found it difficult, if not impossible, to provide satisfactory records of their cases. The College proceeded to gather information along definite lines with regard to the status of hospitals and soon a large amount of valuable data was accumulated by means of correspondence with hospital officials,

boards of trustees and others, as well as by individual investigation on the part of College representatives. The information secured gave definite evidence of the existing hospital situation in the United States and Canada and was of great value to the College in formulating the programme for better surgery; hence the minimum standard was formulated.

The information collected was carefully considered and it was realized that there was a definite need for a sound and practical standard embodying certain fundamental principles which would provide the best possible hospital service, both from the standpoint of the patient and the physician. After careful deliberation the minimum standard was formulated—a standard which is minimum in name but maximum in effect, having a universal application and fitting all types of hospitals. This standard provides a fundamental service and procedure which any institution worthy of the name of hospital should accept. It is known as the minimum standard of the American College of Surgeons.

What the Minimum Standard Requires.

The minimum standard of the American College of Surgeons presents the following principles as essential to its attainment:

1. The doctors practising in the hospitals shall be organized as a staff. This organization may be carried out in either an "open" or a "closed" hospital. The staff should elect from time to time a chairman and secretary. Much of the success of the staff organization and staff meetings is dependent upon the efficiency of these two officers who must exercise good leadership and initiative.

2. The medical staff of the hospital shall be competent and ethical. The American College of Surgeons is absolutely opposed to the practice of "fee-splitting" in any manner whatsoever and it is required that the staff of every hospital accepted under the minimum standard shall take a very definite stand in this regard.

3. The medical staff shall draw up rules and regulations for the guidance of the professional work in the hospital. By means of such rules and regulations the medical work of the institution is coordinated and systematized.

4. The medical staff shall hold conferences periodically at least once every month for analysis and review of the work carried on in the institution. At these conferences there should be a careful review of the medical work during the intervening period. It is advisable that a definite agenda be prepared for each meeting. This agenda should include consideration of the following: (*a*) The patients resident in the hospital; (*b*) the patients discharged since the previous staff meeting and the results of their treatment with special reference to the unimproved, infected or complicated, and deaths and (*c*) everything pertaining to the betterment of the hospital service. All discussion or criticisms at staff meetings should be of a constructive nature. A record of the proceedings should be kept by the secretary. The monthly analysis sheet has been found to be of great value in the staff conference.

5. There shall be a complete medical case record of every patient passing through the institution. There are certain fundamental requirements for a good case record system in any hospital. There is, first of all, the realization that the case record is a necessary part of the care and treatment of the patient. There must be the facilities for securing and filing of such records. The component parts should be carefully assembled and when complete form a comprehensive document setting forth the following information: Identification data, complaints, personal and family history, history of the present illness, physical examination, consultations and special examinations, pre-operative or pre-treatment diagnosis, operation or treatment, final diagnosis, progress notes, condition on discharge and follow-up. Every record should be a comprehensive word picture of the patient, the illness and other essential data. It should be an honest, sincere record of facts and conclusions; otherwise it is of little value. The securing and supervising of records is the responsibility of the physician. The filing of records is usually placed in the hands of a competent clerk. Various systems are utilized in hospitals. Whatever system is used these records should be readily accessible when required in the interest of the patient or the physician.

6. The hospital shall have an efficient laboratory and X-ray service. Both of these departments are absolutely essential for the carrying out of up-to-date diagnosis and treatment. They should be under the control of competent directors who may have technicians as their assistants. Unreliable laboratory or X-ray service is a serious detriment to any hospital and is decidedly dangerous. For the benefit of the surgical service and to promote good team work between the surgeon, the pathologist and the riadologist, it is advisable that these departments should be within easy access of the operating rooms. There are certain routine and fundamental tests or examinations which every laboratory and X-ray department should be equipped to carry on and which may be immediately necessary at any time in any hospital. In standardized hospitals, routine pathological examination of all tissues is required in order that there may be a proper check-up on the work.

Progress and Development of the Movement.

During the past six years hospitals of one hundred beds and over in the United States and Canada have been carefully reviewed. Each year a list of hospitals meeting the minimum standard requirements is published and officially announced at the Clinical Congress of the American College of Surgeons. In addition, during the past two years hospitals of fifty to one hundred beds have been surveyed and those meeting the standard have also been added to the approved list. The progress and development of the movement today is well shown by the following figures taken from the list of approved hospitals between the years 1918 and 1923 inclusive:

ONE HUNDRED BEDS AND OVER.

Year.	Hospitals Surveyed.	Hospitals Approved.	Percentage.
1918	692	89	12.9
1919	692	198	28.6
1920	692	407	58.8
1921	761	573	75.3
1922	812	677	83.4
1923	870	749	86.1
FIFTY TO ONE HUNDRED BEDS.			
1922	812	335	41.3
1923	916	427	46.7

During 1923, 1,786 hospitals were surveyed in the United States and Canada. Of these 1,176 or 65.9% were approved as meeting the minimum standard.

These figures show conclusively that the medical, the hospital profession and the public are profoundly interested in the programme of hospital betterment. Without the support and cooperation of the groups, the movement could not have succeeded.

Reactions to Hospital Standardization.

The hospital standardization movement, though still in its youth, has reached maturity in influence and development. It may justly be regarded as one of the greatest hospital movements known in history. The figures quotes show its magnitude and the enormous work associated with its development.

Four results of importance may be claimed for this programme: (i.) The shortening of the patient's days' stay in the hospital; (ii.) the preventing of any incompetent or unnecessary surgery; (iii.) the minimizing of the number of infections and complications and (iv.) the lowering of the hospital death rate. In regard to the latter it is very interesting to find that the average hospital death rate which has been generally from 30, 40 and in some instances 50 per thousand patients treated, has been declining in certain institutions which have been operating strictly under the principles laid down by hospital standardization. Many instances show a falling of the death rate down to 30, 20 and even less per thousand patients.

These results have been accomplished through the sincere, honest, conscientious application of the principles as laid down by the College in the programme for better hospitals. What a great thing it will be to industry if the days' stay of each industrial patient can be reduced one or two days in each illness. What a great comfort it will be to our people to know that they can go into certain hospitals where their illnesses will be more thoroughly studied and all data recorded and through this an operation avoided or done under conditions surrounded with the maximum efficiency and safety. What a great thing to the world to find that the former average death rate per thousand patients can be reduced to 30, 20 or lower.

Outside of the hospital the movement is a community interest. People today are seeking the standardized hospital when ill, for they know that the service therein is better administered and supervised. The governments, municipal bodies and philanthropic organizations make use of the list of approved hospitals when responding to requests for financial assistance. Internes select the approved hospital when furthering their experience. Young women, desiring to take up nursing, also give preference to the approved hospital, knowing that such an institution is better organized and more efficient and can give a more thorough training. In certain instances State and provincial governments have embodied the principles of hospital standardization in the clauses of their acts when formulating hospital legislation. This movement has been endorsed by a large number of allied organizations of the United States and Canada.

The Future of Hospital Standardization.

For a period of six years the minimum standard of the American College of Surgeons has been presented to the hospitals of this continent. The general principles of the movement have been well established and it is now recognized that the important details and further development of the programme may safely be undertaken.

There are in connexion with the College several committees actively engaged in the study of certain problems relating not only to the various services in our hospitals, but as well to the scientific treatment of certain types of patients. The beneficial results obtained from these investigations will be made available for hospitals and should be of inestimable value to them in their advancement.

From time to time requests for information on various subjects are being made to the College. So numerous have these become of late and such is the desire of the College to assist, that it has been found advisable to establish a bureau of information for hospitals. Through this, a more extensive and continuous service can be given from headquarters.

The problem of the standardization of the smaller hospitals under fifty beds is being given careful consideration and its solution will be forthcoming in the near future.

Hospital standardization is but in its youth. It has now been proved to be an indispensable factor in increasing the efficiency of hospitals. This movement, backed up by a more detailed service from the hospital department of the College will go on from year to year to a much greater attainment even than that which has been established at the present time. The future will, therefore, see a further development of the programme and an increased interest and appreciation of the work as all groups directly or indirectly connected with the hospital service are fully convinced of its value to the patient, the doctor, the hospital and the entire community.

The 1923 Survey.

The work has increased considerably during 1923. The magnitude of this can only be realized from the following considerations: There were nine hospital visitors engaged in the field who did sixty months (or five years) of survey work in 1923. The 1,786 hospitals visited contained 237,946 beds caring for approximately 4,758,920 patients during the year. The estimated days' treatment

for this group is 71,383,800. In the 1,176 hospitals which have been accepted as approved there are 191,042 beds caring for approximately 3,820,840 patients with an estimated days' treatment of 57,312,600 for the year. During the survey work the visitors travelled approximately 75,000 miles. Follow-up letters from headquarters numbered over 3,500. In addition to all this thirty-four sectional meetings of the Clinical Congress of the American College of Surgeons were held in various parts of the United States and Canada. At each meeting an interesting two-day programme was provided. A considerable portion of this programme on each occasion was devoted to hospital standardization. These meetings throughout were largely attended and fruitful of good results. All the above indicates the opportunity the hospital standardization movement has for extending its beneficial influence.

Reports of Cases.

AN UNUSUAL CASE OF FILARIASIS WITH POST-OPERATIVE TETANUS.

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AND
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Clinical History.

IN May, 1923, Mrs. X.Y., aged thirty years, married, was sent to one of us (R.W.C.) for consultation owing to filariasis of the right leg of fifteen years' duration. The patient gave a history of the appearance of the disease during adolescence in Charters Towers, North Queensland. She had for some time suffered from typical filarial fever with continued enlargement of the leg after each exacerbation. These attacks had now ceased for some years. For five years, however, subsequent to the birth of a child she had suffered acutely with bearing-down pains, worse near the periods, and frequent backache. Coitus was extremely painful. Otherwise her health appeared good. There was no history of gonorrhœa and infection was denied, but a slight vaginal discharge had persisted for some time.

On examination the right leg showed a definite filarial enlargement. The foot was not included for it had been kept practically normal by the pressure of the shoe, as is commonly the case in these cases in Australia. Pelvic examination demonstrated a narrow elongated vagina. The cervix of the uterus, pointing forward, seemed irritated and had a laceration on the left side. The uterine appendages were tender to pressure, boggy and gave the impression of chronic salpingitis.

The whole of the symptoms and findings indicated the misplacement of the uterus and probably a chronic salpingitis as being the essential factors requiring treatment. Filariasis of the broad ligament was considered, but on account of the quiescence of the leg was deemed possible, but improbable. The patient was advised to return to Charters Towers for operation.

The patient did not present herself for operation until August 31, 1923. On that date she was operated upon at the Charters Towers District Hospital by one of us (V.F.O'N.) for retroversion of the uterus with chronic salpingitis. The abdomen was opened by a transverse incision through skin and subcutaneous tissues and a vertical incision through the rectus sheath and peritoneum.

The uterus was found in position of retroflexion with a large mass wormy to feel on the left hand side. On investigation a chronically thickened tube was traced over the summit of mass with the ovary enlarged and cystic in appearance. The mass consisted of dilated blood vessels and lymphatic varices with the anterior and posterior layers of broad ligament slightly thickened and much separated. The mass measured five centimetres long and three-fifths of a centimetre broad, gradually tapering off to the base of the broad ligament. The varicosities of the lymphatics varied in size from two millimetres to one and a quarter centimetre in diameter and on pricking exuded chylous fluid. The ovary was found to contain the same fluid. The lymphatics from the *corpus uteri* in the upper portion of the broad ligament seemed most affected as the lymphangiectasis was more pronounced in this region. Uterine lymphatic glands in the region of the uterus were enlarged, also the lumbar glands. Left salpingo-oophorectomy, a large wedge-shaped resection of the broad ligament and external shortening of the round ligaments was performed and the operation completed.

Twelve hours after the operation the patient developed an acute catarrhal bronchitis and included in the treatment for this complication was a linseed meal poultice applied to the back and front of the chest every four hours.

On September 2 it was noticed that portions of the linseed meal had become scattered through the bed-clothes and between the dressing and the wound, though broad strips of adhesive plaster were in position and had not been moved. The patient made an uneventful post-operative recovery and sutures were removed on the eighth day, September 7, 1923, the wound appearing healed by first intention without inflammatory reaction or exudate.

On the evening of the eighth day the patient had slight stiffness of the jaws, but otherwise felt well. It was considered that this was probably due to the holding forward of the jaw during the recovery stage of the anæsthesia. On the morning of the ninth day the patient showed signs of definite tetanus. Anti-tetanic serum was immediately injected, as shown in the accompanying table.

Progress Notes.

The progress on subsequent days was as follows:

On the first day, September 8, 1923, there was soreness of jaws, the wound was healed, cold sweating was present and 0.01 gramme (one-sixth grain) morphine was given.

On the second day, September 9, 1923, 28,500 units of anti-tetanic serum were given (subcutaneously 4,500 units, intra-muscularly 9,000, intravenously 12,000, intra-thecally 3,000). The spinal fluid was clear and under slightly increased pressure. Five injections of 0.01 gramme morphine were given and the following mixture was piven by the rectum: Chloretone 1.8 grammes (thirty grains), potassium bromide 2.4 grammes (forty grains), chloral 1.2 grammes (twenty grains). There was trismus as well as *risus sardonicus*, orthotonus, twitchings of the mouth, mental anxiety, cold sweats, adduction of the left leg with painful spasm on eighteen occasions. There was generalized hypertonus. The general condition was much relieved after the administration of the serum.

On the third day, September 10, 1923, a total of 50,000 units was given (subcutaneously 10,000, intra-muscularly 10,000, intravenously 20,000, intra-thecally 10,000). The spinal fluid was slightly turbid and definitely under increased pressure. The fluid was sterile to culture and the turbidity was due to polymorpho-neuclear leucocytes. Three injections of 0.01 gramme morphine were given and the rectal injection of chloretone in accordance with the above prescription was continued. The wound opened and about 30 cubic centimetres (an ounce) of purulent discharge appeared. It was swabbed with pure carbolic acid followed by spirit. The trismus was more pronounced, opisthotonus, mental irritability, twitchings, generalized spasms on ten occasions, generalized hypertonus and dysphagia were present. The general condition was much relieved after the administration of serum. Painful starts occurred in the leg about every fifteen minutes.

On the fourth day, September 11, 1923, 40,000 units of antitetanic serum were given (subcutaneously 10,000,

intra-muscularly 20,000, intra-thecally 10,000). The spinal fluid was very turbid and definitely under increased pressure. It was sterile to culture and showed a great increase of polymorpho-nuclear leucocytes. Two injections of morphine 0.015 gramme (grain one-quarter) were given and the rectal injections as above. The wound was irrigated half-hourly with Dakin's solution and there was less discharge. The trismus was less marked, there was no opisthotonus, the patient was mentally calm, three generalized spasms only occurred, hypertonus was lessened, there was no dysphagia and the patient felt better.

On the fifth day, September 12, 1923, 20,000 units of anti-tetanic serum were given (10,000 intravenously, 10,000 intra-thecally). The spinal fluid was slightly turbid, there was slight increase of pressure, the fluid sterile and showed definite increase of polymorpho-nuclear leucocytes. Two injections were given of morphine 0.015 gramme (grain one-quarter) and the rectal injection as before. The irrigation of the wound was continued, the discharge lessened. There was a generalized subsidence of symptoms except a pain in the leg and occasional startings. An urticarial rash appeared on the face and extremities.

On the sixth day, September 13, 1923, 43,500 units of serum were given (subcutaneously 3,000, intra-muscularly 24,000, intravenously 7,500, intra-thecally 9,000). The cerebro-spinal fluid was less turbid and the pressure was reduced. One injection of morphine was given and the rectal injection of chloretone used as before. Irrigation with Dakin's solution was continued, the general condition was unchanged. The patient's condition under chloroform during the intra-thecal injection was unsatisfactory.

On the seventh day, September 14, 1923, 36,000 units of serum were administered (18,000 intra-muscularly and 18,000 intravenously). One injection of morphine and two rectal injections of chloretone were given. Irrigation with Dakin's solution was continued, there being from this date no discharge. Trismus and *risus sardonicus* were present to a slight degree. Painful leg startings were still apparent. Serum was administered under "Apothesine"; no spasm was provoked.

On the eighth day, September 15, 1923, 13,000 units of serum were given (4,500 intra-muscularly and 9,000 intra-thecally). The spinal fluid was practically normal. Morphine 0.015 gramme (grain one-quarter) was given and one hundred and twenty cubic centimetres (four ounces) of brandy. The rectal injection was omitted. There were trismus and frequent painful starts of the legs; the rash was still apparent.

On the ninth day, September 16, 1923, no serum was administered. Four tablets of "Dial Ciba" were given and one hundred and twenty cubic centimetres (four ounces) of brandy. The patient was very drowsy and showed Cheyne Stokes respiration. Chloretone poisoning was suspected. A high rectal enema was given and camphor and oil were administered hypodermically. Black coffee was also given.

On the tenth day, September 17, 1923, two tablets of "Dial Ciba" and one hundred and twenty cubic centimetres (four ounces) of brandy were given. The half-hourly irrigation with Dakin's solution was reduced to two hourly irrigation. The patient was brighter, the painful starts were less frequent and orthotonus was diminished.

On the eleventh day, September 18, 1923, two tablets of "Dial Ciba" and one hundred and twenty cubic centimetres of brandy were given and Dakin's solution was used as on the tenth day. Trismus disappeared. There was no *risus sardonicus*, hypertonus was disappearing, the patient had voluntary movement of the leg.

On the twelfth day, September 19, 1923, no treatment was administered except the two hourly irrigation with Dakin's solution. The patient was able to open the mouth about three-quarter of the normal extent. No hypertonus was present except in the leg which was improving.

On the thirteenth day, September 20, 1923, the leg was still stiff and soreness was present in the jaws.

On the fourteenth day, September 21, 1923, the leg was still stiff and soreness was present in the jaws.

On the fifteenth day, September 22, 1923, the leg was stiff, slightly adducted and voluntary movement was not so painful. Soreness was present in the jaws.

On the sixteenth day, September 23, 1923, the leg was still hypertonic, voluntary movements were freer, the mouth could be opend for five-sixths of its normal extent and soreness was present in the jaws.

On the seventeenth day, September 24, 1923, the leg was improving and soreness in the jaw was diminishing.

On the twentieth day, September 27, 1923, the patient was walking and felt excellent except for weakness in the back.

On the twenty-fifth day, October 2, 1923, the patient was quite recovered, slight soreness was present in the jaws on movement.

On the twenty-eighth day, October 5, 1923, the patient was quite cured.

Comment.

The total quantity of anti-tetanic serum given was 231,000 units. The serum was obtained from the stock of Commonwealth Serum Laboratories' products held at the Australian Institute of Tropical Medicine, excepting the first 28,500 units which were held at the hospital.

The focus of infection was in the left extemity of the subcutaneous layer of the wound, where a small puffy swelling appeared on September 10, the eleventh day after the operation. All suture material could be absolutely vouched for. The question arises as to whether the infection was air-borne or contained in the linseed meal. As regards the effect of serum in this case, its efficiency was undoubted and there was evidence of a definite relation in the subsidence of all active phases of the disease for about eighteen hours following its use.

On all occasions serum was given at 9.30 p.m. under chloroform, excepting on the seventh and eighth day, when owing to the weakness of the patient and her general behaviour under chloroform anæsthesia "Apothesine" was used locally. The rectal injection of chloretone, potassium bromide and chloral was given in olive oil and the morphine was injected once or twice to ensure rest. The improvement was always manifested in the mornings and continued throughout the day until 5.30 p.m. Thence onward neither the morphine nor the rectal injection appeared to ease the pain and, although the patient became drowsy, the orthotonus and trismus and the painful spasms were uninfluenced by the hypnotics exhibited. Within twelve hours of the exhibition of serum there was always a definite muscular relaxation, a diminution of the trismus and the temporary disappearance of the *risus sardonicus*.

Best results were obtained when the drug was administered by the intra-thecal route. Intravenous administration held next place, though the improvement which resulted from this method, was more transient except where it was used in conjunction with the intra-thecal method.

While admitting that the hypnotics cloud the picture it is believed that in the case under discussion they quietened the patient and reduced the reflex excitability though they did not in any way influence the hypertonus or orthotonus.

A handicap which was noted, was the absence of concentrated serum and where massive doses are indicated this is a serious disadvantage. The experience gained in this case seems to indicate the desirability of using massive doses of the concentrated serum at the earliest possible date, for example, a daily average of 60,000 to 100,000 units for the first three days (20,000 intravenously, 20,000 intra-thecally, 20,000 intra-muscularly) with subsequent doses in accordance with indications.

In view of the fact that the benefits of the intravenous route have been debated, it is interesting to note that on the seventh day, 18,000 units given intra-muscularly and 18,000 given intravenously produced a decided improvement, whereas for the previous twelve hours rectal injections of chloretone and hypodermic injections of morphine had been ineffective. As regards the intra-muscular route, the rate of absorption is definitely slower and approximates twenty-four hours. The improvement was manifested in about twelve hours and diminished "palpably" in eighteen hours after the injection.

Points of Interest.

The points of interest in this particular case are:

1. The interesting condition of filariasis in the broad ligament.

2. The suggestion whether the vaginal discharge was suggestive of lymphorrhagia.

3. The fact that this is the first case of tetanus in over two thousand major operations performed in the Charters Towers District Hospital during four and a half years under identical conditions and technique.

4. That the case was one of four performed the same day and one of eighteen performed the same week all others of which had an uneventful post-operative course.

5. That this was the only case on which linseed meal was used and that the linseed meal was definitely traced to a shipment from India.

Linseed, of course, is subject to extensive and detrimental adulterations, not only from careless harvesting and cleaning, whereby seeds of the flax dodder and other weeds and grasses are mixed with it, but also from the direct admixture of cheaper and inferior oil seeds such as wild grape, mustard, sesame, poppy *et cetera*, the latter adulterants being known in the trade under the generic name of "buffum." Taken into consideration with the fact that the seed came direct from India where tetanus is rife and where the conditions of its preparation are extremely insanitary, it is regarded as probable that this was the source of infection.

FIGURE I.
Showing deformity produced in feet.

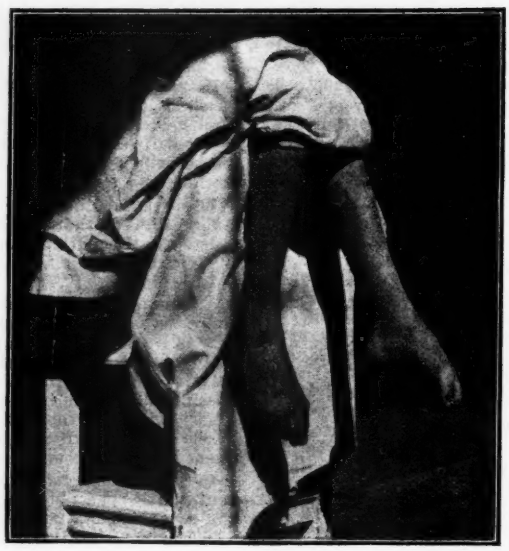

FIGURE II.
Showing deformity produced in feet.

AN UNUSUAL CASE OF FUNCTIONAL PARALYSIS.

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THE case herein recorded is of unusual clinical interest as a vivid illustration of functional disability engrafted on a basis of organic disease. After a bed-ridden existence extending over a period of ten years, a few weeks in hospital enabled the patient to recover the power of walking and altered her condition to such an extraordinary degree that a detailed report of the illness appears worthy of record.

Clinical History.

V.G., female, *ætatis* thirty-four years, was admitted to hospital on May 18, 1923, complaining of loss of power in lower limbs and pain in right hip and left knee. The history was devoid of interest until the age of twenty-two years. Thence after four attacks of "pleurisy" (two of which were accompanied by effusion) the patient developed a persistent cough with scanty expectoration. Soon after this pain in right renal region appeared with frequency of micturition and pyuria. The patient was admitted to an hospital where the diagnosis of renal tuberculosis was made. Further investigation revealed physical signs of involvement of the right lung and the patient was considered unfit for operation and was sent to Waterfall Sanitorium. Here she is said to have remained for a period of nearly four and a half years, at the end of which time she showed some improvement and was taken home where she remained in bed. The history of the next six years is indefinite, but the essential fact is that she remained in bed continuously. The tuberculous process in the lungs had apparently undergone spontaneous cure by fibrosis and the renal lesion had become inactive during this period. Foot-drop developed in both legs together with pain and stiffness of the right hip and partial fibrous ankylosis of the left knee in a semi-flexed position. On examination on May 5, 1924 (nearly eleven years from the onset of illness), the patient did not appear grievously ill. Signs of an arrested tuberculous lesion were demonstrable at the upper lobe of the right lung. The cardio-vascular system appeared healthy. There was observed some tenderness on deep palpation in the right iliac region and a mass could be felt in the position of the right kidney. The specific gravity of the urine was 1030. The urine was acid in reaction and contained neither albumin nor sugar. Microscopical examination revealed the presence of occasional pus cells and one granular cast.

Movement at the right hip was restricted and caused pain. The left knee was semi-flexed and fixed by fibrous ankylosis. Foot-drop was present in both lower limbs, particularly on the left side in which the foot was in the position of *pes cavus* (see Figures I. and II.) Muscular wasting was present, the right gluteal region, extensors of thighs and dorsi-flexor muscles of both ankles were the sites of well marked atrophic change. No gross organic change was detected on the examination of the nervous system. Skiagrams showed "osteo-arthritis of right hip joint and rarefaction of bones of left knee, the latter changes probably resulting from disease." The patient was afebrile and otherwise apparently normal.

Under anæsthesia the fibrous adhesions of left knee were readily broken down and the limb straightened. The right hip joint was examined and movement was found restricted to a minor degree only. The left knee was maintained in position of extension by splinting and the foot-drop gradually corrected by plaster. Massage and daily movement were applied. Treatment by psychotherapy in its simplest form of logical explanation was instituted, the patient being made to understand the sequence of events which had produced her disability and being encouraged to concentrate on muscular re-

education. The daily administration of morphine which had been rendered necessary for a long period by the pain in the hip and knee was gradually discontinued.

With the intelligent cooperation of the patient, recovery proceeded rapidly, so that at the end of four months she was able to walk well with a stick and her general condition of health was excellent.

The actual disability which resulted from osteo-arthritis of the right hip remained only as a minor impediment to walking. The accompanying illustrations show clearly the condition of muscular wasting with resulting deformity.

Comment.

The case serves to demonstrate the degree to which functional disability may persist, long after the original organic disease has become arrested.

Considering that the patient had been practically bedridden for ten years, her immediate cooperation and her acceptance of the logical explanation of her inability to walk was truly remarkable, lacking as there was any atmosphere of religious fanaticism or similar psychic stimulus!

Acknowledgement.

My indebtedness is due to Dr. L. Bamber, of Lithgow, who, having recognized the co-existence of functional with organic disease, referred the patient to hospital.

Reviews.

PRACTICAL ANATOMY.

THAT a second edition of Professor R. J. A. Berry's "Practical Anatomy" should be called for within such a comparatively short time is evidence of the success which has attended its publication and must be a source of satisfaction to the author.[1] The work is one of considerable magnitude and is one of the largest and most important in the list of Australian text-books in the medical curriculum.

There are two schools of thought in regard to the teaching of anatomy. The supporters of the older method hold that this science should be taught in its abstract form on the basis of structure and relationship. It is possible for a teacher of anatomy to hold the attention of his students and even fill some of them with enthusiasm. This subject need be neither dry nor obscure, but its teaching must necessarily be more difficult to assimilate because the student has no knowledge of the significance of these purely morphological facts. Professor Berry has adopted the method which has been frequently advocated in the columns of this journal. He has combined clinical considerations with structural details. The application of a fundamental science is all important and the teaching given to a medical student should be planned from the outset with this object in view. Not only is this combination the correct method in that it gives the student the proper outlook, but it renders facts more easy of assimilation. For instance, the wide range of mobility which is possible at the shoulder joint, the arrangement of muscles and tendons around it and the size of the articular capsule assume quite a different significance when attention is drawn, as is done by Professor Berry, to the liability of the shoulder joint to dislocation and to the fact that the position of the branches of the brachial plexus exposes them to the possibility of injury in this accident. Throughout the book the description of the anatomical structure of a part generally concludes with a short account of practical application to clinical work. It would perhaps be better if the clinical portions of the work were printed in a smaller or distinctive type. This would facilitate reference by the post-graduate student and practitioner.

In the first volume Professor Berry deals with the superior and inferior extremities. Volume II. is devoted to the thorax and abdomen and the first part of Volume III. to the head, neck and the organs of special sense. The nervous system is dealt with in the second part of Volume III. The treatment of the subject in this volume agrees with that adopted for other systems in that clinical and physiological facts are incorporated with descriptive anatomy. This volume is more than a guide to dissection and the directions indicate that microscopical sections must also be studied to follow the text. Almost the whole of the first fourteen pages are devoted to the minute structure of the neurone including a summary of the methods employed to trace fibre-tracts. This is, of course, necessary to render intelligible the detailed structure of the nervous system subsequently described. In consequence this work serves to emphasize the recent tendency to convert manuals of practical anatomy into larger works of reference. The student is apt therefore to neglect study of the systematic treatises upon the subject. The practitioners and students in their later years of medicine will find such a full treatment of the subject accompanied by directions for dissection useful.

The description of the structure of the spinal cord involves reference, often somewhat of a detailed character, to parts of the brain-stem and cerebral hemisphere not yet dissected by the student. The author is at his best as a clear teacher in the description of various parts of the brain-stem. Here anatomical, physiological and clinical facts are welded together in convincing fashion. Evolutionary data are also handled to advantage. The statements are on the whole didactic. While this is justifiable in such a book and indeed is advantageous in the purely descriptive part of the work, it leads to difficulties when physiological and clinical material are incorporated owing to the incompleteness of knowledge and the rapid changes which take place in ideas upon the subject. In this connexion there is, in this volume, too great a tendency to quote extracts from current text-books rather than from original articles. This tendency must impress upon the student the view that the former works are the sources in which he must ultimately seek authority for his knowledge. In this way views which are already modified have crept in, as on page 33, where Campbell Thompson's "Diseases of the Nervous System" is quoted in support of Bastion's view that flaccid paralysis follows complete transverse lesions of the spinal cord, no mention being made that this is only a passing phase in the symptomatology of such a condition. The explanation of the Argyll-Robertson pupil (page 109) is not made sufficiently clear to the reader and more convincing alternative explanations have been put forward. It is unfortunate that the autonomic nervous system is not dealt with till near the end of the book, as an understanding of this system is essential to the reading of the description of the spinal and cerebral nerves. Only by incorporating the description early in the text will the tendency on the part of the reader to regard the autonomic as an independent system be overcome.

It is interesting to find the original work of Berry and Porteus (page 170 *et sequelæ*) incorporated in the book.

The nomenclature throughout the work is based on that of the Basle International Commission. The author states in his preface that this nomenclature is in many respects out of date, especially as far as the nervous system is concerned. In the latter system it has been used as a basis only. The Latin names have been Anglicised and when the Basle anatomical nomenclature differs from that formerly used, both names have been given.

There are sixty-seven plates which are reproductions on a reduced scale of Ellis and Ford's well-known anatomical pictures. Unfortunately some of these have suffered in the reduction and they are not reproduced in the colours which make the originals so striking. The numerals and letters on some of the plates are not always legible. This is more than compensated for by the fact that throughout

[1] "Practical Anatomy," by Richard J. A. Berry, M.D. (Edin.), M.D. (Melb.), F.R.S.E., F.R.C.S. (Edin.); Second Revised and Illustrated Edition, 1922. Melbourne, Sydney, Adelaide and Brisbane: Robertson & Mullen's, Limited; Demy 8vo., Volume I.: Superior and Inferior Extremities, pp. 471, with 20 plates. Price: 22s. 6d. Volume II.: Thorax and Abdomen, pp. 430, with 15 plates. Price: 22s. 6d. Volume III.: Part I., Head and Neck and Organs of Special Sense, pp. 350, with 10 plates. Price: 20s. Part II.: Central Nervous System, pp. 256, with 22 figures. Price: 17s. 6d.

the volumes marginal notes are placed bearing reference to Spalteholz's and Toldt's well-known figures. With this work at hand for reference this book on practical anatomy might well be described as the most richly illustrated manual available.

We congratulate Professor Berry on producing a work which reflects credit on himself and the school from which the work comes.

SURGICAL TREATMENT OF DYSPEPSIA.

The causes of dyspepsia are so various and it is a symptom of so many diseases that the question whether a patient with dyspepsia can be cured by an operation is an every-day occurence in the life of a surgeon, and it is a problem which many find very difficult to solve. A work on "Surgical Dyspepsia" written by Walton should therefore be very welcome to the medical profession. Alluding to the general opinion that the diagnosis in this subject is very uncertain, Walton declares that there is no group of diseases in surgery which with care can be so certainly recognized. In relation to this we would like to see more attention paid in this book to the diagnosis of those painful neuro-muscular disorders of tone which are continually found at operation without obvious disease of stomach or any other abdominal viscera.

The author has most sensible and conservative views on the treatment of visceroptosis. He is not an advocate of the drastic operative measures on the colon and stomach practised by some surgeons; he is even very little in favour of the milder operations, such as the fixation of the colon, plication of viscera and the division of the various forms of bands. These operations, he declares (and produces evidence to support his contention) are uncertain and not lasting in their effects. Basing his treatment on the theory that visceroptosis is part of a widespread change in the body of congenital origin or probably due to some defect in the complicated innervation of the involuntary and perhaps also, but to a lesser extent the voluntary muscle, he would regard visceroptosis as a problem for the physician.

It would be difficult to find a more practical and more useful description of the pathology, symptoms and signs of the various forms of gastric and duodenal ulcer and this is enriched by many most illuminating and instructive case reports which the author quotes from his own personal experience.

He maintains from his own observations that practically all gastric and duodenal perforations are a complication of chronic and not of acute ulcers as is generally supposed. For this reason he thinks that gastro-enterostomy should be combined with suture of the perforation either at the time or at secondary operation. Many surgeons would not agree entirely with this view; because so many perforations occur without any previous history and so many patients get completely well after suture only Arguing that the hæmatemesis from acute ulcer cannot be controlled by medical treatment and that many patients are lost, he performs gastro-enterostomy with temporary pyloric occlusion before the patient becomes too collapsed, preceding the operation with a transfusion. He reasons that gastro-enterostomy cures chronic ulcer and should cure acute ulcer, the cause of the bleeding. He had six deaths from operation in a series of seventeen cases.

It has become the fashion to regard the appendix as the most frequent cause of dyspepsia, many go so far as to say it is the cause in 80%. Walton thinks that this due to the fact that fibrosis which is regarded as a sequel of chronic inflammation, is often probably only evidence of involution of the appendix. His own experience is that there are "very definite cases of appendix dyspepsia, that in nearly all such cases there is a clear history of an acute attack and that although a chronic appendicitis may be found in association with a chronic gastric or duodenal ulcer and an acute appendicitis may undoubtedly give rise to hæmatemesis, yet the relationship between the two conditions has today been greatly exaggerated." His custom is to examine the appendix in every patient with duodenal or gastric ulcer or gall stones, but in only about 10% has he found changes sufficient to warrant an appendicectomy.

The main part of the book is taken up with a very complete account of the organic lesions of the stomach. The diagnosis of carcinoma is very rightly considered from every possible point of view, because the author recognizes that it is only by a perfect mastery of every phase of this disease that its early recognition is possible.

Like most London surgeons he believes in gastro-enterostomy for most gastric ulcers, but he always uses it for duodenal and pyloric ulcer. He gives statistics which show such satisfactory results following gastro-enterostomy that it would seem unnecessary for more radical measures to be adopted, but he recognizes that in many cases local excision must be combined with this operation and that the different forms of partial gastrectomy may be necessary, but he is not very enthusiastic about the latter.

The book is well illustrated and contains a great deal of information which will be useful to both surgeons, physicians and general practitioners.

[1] "A Text-book of the Surgical Dyspepsias," by A. J. Walton, M.S., M.B., B.Sc. (Lond.), F.R.C.S. (Eng.); 1923. London: Edward Arnold & Company; Royal 8vo., pp. x. + 728, with two coloured plates and 272 illustrations in the text. Price: 42s. net.

DERMATOLOGY.

THE second edition of Dr. Henry H. Hazen's book "Diseases of the Skin" has been enlarged, revised and brought more up to date.[1] The book is a useful treatise on the subject, it is well illustrated with two hundred and forty-one plates two of which are in colour. The author has paid more attention to treatment by X-rays and radium than formerly. He has also discussed more fully the pathology and treatment of syphilis. He touches but lightly on single and multiple glandular therapy and could have advocated its use for many diseases in the treatment of which it has been found of great advantage. The same statement applies to colloidal preparations. Eczema is well considered, the lines of treatment laid down are sound and the accompanying illustrations are good.

The book is well produced and is printed in bold clear type. It should appeal equally to the general practitioner and the dermatologist.

PHYSIOLOGY FOR DENTAL STUDENTS.

DR. CURZON MILLER in his "Physiology for Dental Students" states that while there is no lack of text-books in physiology for students of medicine, there exists none suited to the more limited needs of dental students. This lack of a suitable text-book is in his opinion responsible for the unpopularity of this subject in the dental curriculum. We do not think that Dr. Curzon-Miller's book will help materially to remove this distaste, if indeed it is due to the cause he mentions.[2]

The subject is well treated and admirably condensed, but as the whole field of general physiology is crammed into two hundred pages, including diagrams and illustrations, it is necessarily reduced to a collection of hard facts, technical terms and bewildering tables of chemical reactions.

The work is an excellent synopsis for revision purposes, but needs to be read in conjunction with some fuller work. Except as an aid in revision, the book is of little value to Australian dental students, whose course demands a much wider reading in physiology.

[1] "Diseases of the Skin," by Henry H. Hazen, A.B., M.D.; Second Edition; 1922. St. Louis: C. V. Mosby Company; Royal 8vo., pp. 608. with 241 illustrations, including two coloured plates. Price: $7.50 net.

[2] "Physiology for Dental Students," by A. G. Curzon-Miller, B.Sc., L.M.S.S.A. (Lond.), F.C.S.; 1922. London: Edward Arnold & Company; Demy 8vo., pp. viii. + 206, with 81 figures. Price: 10s. 6d. net.

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The Treatment of Fractures.

THE treatment of fractures is a matter of great importance from every point of view. That of the patient must naturally be placed in the forefront. In the first place he is subjected to pain and inconvenience as a result of his injury and, secondly, his future activities will be influenced to a very large extent by the degree of success achieved in the treatment. The vast majority of persons who have the misfortune to suffer from fractures, belong to the group of those whose occupations expose them to the risk of physical injury. As a rule these individuals are manual workers and in the event of a disablement of sufficient gravity to interfere permanently with their activities the majority find it impossible to change their occupation to one of a sedentary nature. To the medical practitioner called on to attend a patient with a fracture the treatment is of some moment. Nothing is calculated to damage the reputation of a medical practitioner more than an unsightly or functionally bad union of fractured bones. Such a condition is frequently a permanent monument erected to his incompetence. Of course there occur fractures of such severity and situated in such parts of the body that it is practically impossible to achieve an altogether satisfactory result. The patient and his friends do not always realize this and attempts to explain it to them may not be readily accepted.

In the bygone days the treatment of fractures was confined to manipulation and the application of a splint which was kept in position practically without removal until healing was complete. Diagnosis was made as a result of palpation and measurement and stiffness of joints was a common sequel. The introduction of anæsthesia and its subsequent employment in the examination and initial treatment of fractures was an advance which gave rise to more satisfactory results. Particularly was this the case in regard to fractures in the neighbourhood of joints, for here more accurate diagnosis was possible and treatment could be instituted on a more intelligent basis. With the advent of antiseptic and aseptic surgery the treatment of compound or open fractures lost much of its terror. The greatest advance came with the discovery of X-rays and their use in fracture work. As a result it may be claimed that satisfactory results are generally obtained. They can be achieved in an increasing number of instances if due consideration be paid to the methods used.

The treatment of fractures received a great impetus during the Great War. Never before in history had such a golden opportunity presented itself of experimental investigation in this field. Gun shot wounds were the cause of fractures of every conceivable variety and the ingenuity of surgeons, though it was taxed to the uttermost, produced results which up to that time had hardly seemed possible. Not only was this so, but the close association of surgeons of many nations produced an interchange of ideas and a uniformity of methods that could not have been produced otherwise. It has long been felt that better results would be obtained if methods of treatment were standardized. Agreement as to the essentials of treatment would lead to simplicity. The suggestion of standardization was made in 1922 in America and as a result a conference was held in Boston at the Massachusetts General Hospital, in April of that year. The unanimity of those present on all the essentials was so unexpected and appeared to those present to be so important that a syllabus was issued by the conference. The list of surgeons who attended and gave approval to the conclusions, is a formidable one and includes the names of many eminent practitioners. The first portion of the syllabus comprises a general outline of the treatment of fractures. The questions of first aid, examination, diagnosis and treatment are considered *seriatim* and special mention is made of operative treatment and the treatment of compound fractures. The second part of the syllabus consists in a schematic tabulation of the treatment of fractures. In this

extensive table mention is made of the method of reduction and of immobilization, the position which should be used, the duration of secondary splinting and the period during which a support should be worn in convalescence. There are also tabulated the periods of time during which massage and passive movement should be used. The syllabus concludes with diagrammatic representations of different kinds of splints and the methods of their applications.

There is abundant clinical material in Australia from which much could be learned of the treatment of fractures. At the present time little use is made of the experience of surgeons in the large metropolitan centres. Good results are obtained by use of a method in one centre and equally good results by another method in another place. Readers will remember the valuable communications by Hamilton Russell, of Melbourne, on the treatment of fractures by extension apparatus alone and the excellent results that were obtained. Hurley, of Melbourne, and Weedon, of Wagga, recorded in *The British Journal of Surgery* some highly satisfactory results obtained by them at the Second Australian General Hospital, in France, in the treatment of compound fracture of the femur from gun shot wounds. These workers used Thomas's splint with Sinclair's foot piece and other modifications. Cunningham also has recently reported in THE MEDICAL JOURNAL OF AUSTRALIA the success achieved by Corlette, in Sydney, in the treatment of fractures by means of the Schmerz hooks. If methods such as these together with those used by other Australian surgeons, were submitted to the light of a critical inquiry, standardization of treatment in Australia would be possible and the whole subject would be put on a more simple and satisfactory basis. This could best be done by the appointment of an interstate commission to consider the question. Two surgeons of experience from each State would be able to supply the necessary data and draw up a scheme of treatment which would embody all that was good in the various methods that are used, and would be suitable to the varying conditions of medical practice in different parts of the Commonwealth.

Current Comment.

HODGKIN'S DISEASE.

ALTHOUGH Hodgkin in 1832 described a series of cases of enlargement of the lymphatic glands and of the spleen, it was largely owing to Wilks that a clear conception of the disease was formed. In fact it was Wilks who in 1856 associated the name of Hodgkin with the disease. Sternberg in 1899 and Reed in 1902 studied it from an histological point of view and associated with it a specific histological picture. They showed that the changes in the lymphatic glands and in other parts of the body consisted in a proliferation of endothelial and reticular cells and in the formation of lymphoid cells from the cells of the lymphatic glands and from the endothelial cells of the reticulum. Characteristic giant cells are present and there is proliferation of the connective tissue and resulting fibrosis. Finally there may be and generally is an extensive appearance of eosinophile cells. According to the usual description of Hodgkin's disease as found in the text-books on medicine the most common and prominent feature is enlargement of the cervical lymphatic glands. The inguinal, abdominal and intra-thoracic glands are generally involved and medical practitioners are apt to lose sight of the fact that pathological changes may occur in other organs such as the liver, spleen and skeletal muscle.

An interesting and important study on the clinical significance of the pathological changes in Hodgkin's disease has recently been made by Dr. Douglas Symmers.[1] Dr. Symmers has studied fourteen instances of the disease as encountered in the pathological laboratories of Bellevue Hospital among 8,485 autopsies. The cases were studied from the clinical, anatomical and histological points of view. He divided them into two groups. The first group included instances in which the pathological changes were limited to the lymphoid tissues of the various parts of the body. The second group included those in which the disease had also mechanically infiltrated other tissues such as skeletal muscles and blood vessels and by direct pressure had eroded bone or partially replaced viscera. Ten of the fourteen patients were classed in the first group and four in the second. Dr. Symmers gives a clinical history, an account of the autopsy findings and the histological appearances of each of the fourteen cases. Several interesting facts were observed. In the first place enlargement of the cervical lymphatic glands was not observed as frequently as would be expected from the usual text-book description. The glands of the neck were not enlarged at all in four instances. They were secondarily involved to a slight extent in three and in six they were more or less definitely enlarged, but always in association with lymphatic enlargements in the deeper parts that were proportionately more massive. In the remaining instance the cer-

[1] *The American Journal of the Medical Sciences*, February and March, 1924.

vical glands were "enormous." Dr. Symmers concludes from this that it is necessary to relinquish the conception that Hodgkin's disease is most commonly manifested by enlargement of the lymphatic glands of the neck. Predominant involvement of the abdominal glands occurred in four instances and enlargement of the abdominal and thoracic glands in combination was most prominent in six. Dr. Symmers points out that it is a fact that enlargement of the axillary glands is secondary to involvement of the thoracic or cervical glands and that enlargement of the inguinal glands is secondary to involvement of those in the abdomen. He thinks that these observations suggest that the provocative agent does not enter through the skin, but exclusively through mucous membranes and probably only through the mucous membranes of the gastro-intestinal tract. He does not think that the mucous membrane of the respiratory tract can be excluded, but regards it as significant that in his series there was not a single instance in which enlargement of the peri-bronchial glands could be implicated other than as an associated phenomenon. He points out that the vast array of lymphoid follicles which lie in the sub-mucosa of the gastro-intestinal, respiratory and urinary tracts practically always escapes intact and says that it is apparent that the provocative agent in Hodgkin's disease has a selective action on certain groups of lymphoid tissue. The same peculiarity is manifested in chronic lymphatic leuchæmia. The axillary lymphoid system, however, does not escape. The follicles in the walls of the arterioles of the spleen and of the thymus may be involved. Focal collections of lymphoid cells may be found in the walls of the portal veins. This may also occur in pseudo-leuchæmia and enteric fever. Similar foci may occur in the kidneys and lungs. The changes in the auxiliary lymphoid tissues are comparable to those occurring in the lymphatic glands and their subsequent development is the same.

Among the cases described by Dr. Symmers are three in which the chief involvement occurred respectively in the liver, the spleen and the thymus. In the case in which involvement of the liver was so pronounced, histological examination revealed that the organ which was greatly enlarged, was extentively replaced by connective tissue. There was thickening of the intra-hepatic portal veins and in their walls the typical histological features of Hodgkin's disease were in evidence. Dr. Symmers states that the extent of the changes in the liver in this case constitute a phase in the pathology of Hodgkin's disease to which attention has not yet been drawn. He assumes that there is a variety of Hodgkin's disease in which the predominant changes occur in the lymphoid collections in the walls of the veins. In discussing the case characterized by predominant enlargement of the spleen Dr. Symmers opens up the question as to whether there is a form of Hodgkin's disease that is "primary" in the spleen. By this he means enlargement of the spleen without involvement of the lymphatic glands or in connexion with which it can be shown that the glandular involvement is secondary to enlargement of the spleen. He refers to cases described by Wade, by Mellon and by himself and states that they indicate the probable existence of a variety of Hodgkin's disease in which the lymphoid follicles in the spleen are involved to such an extent as to bring about massive enlargement of the organ, while the glandular enlargements are relatively insignificant. He regards it as beyond question that there is in certain instances a phase in the clinical evolution of Hodgkin's disease that is marked by enlargement of the spleen before the appearance of recognizable signs of glandular involvement. In several of the patients referred to by Dr. Symmers in this regard there occurred intermittent chills and fever. In the case in which predominant enlargement of the thymus was present, a growth measuring twenty-five centimetres by eighteen centimetres was found in the region normally occupied by the thymus. Dr. Symmers knows of only four similar cases. In all five instances the histological changes in the mediastinal growths, in their extensions and in the remote nodules were in complete agreement with the histology of Hodgkin's disease. He thinks that the five records unite to establish Hodgkin's disease of the thymus as a clinical and pathological entity. Professor Murray in discussing involvement of the thymus in Hodgkin's disease in Allbutt and Rolleston's "System of Medicine," states that the anterior mediastinal glands are most frequently primarily affected and the thymus by extension of the growths from them.

In the cases classified by Dr. Symmers as belonging to his second group were three in which the skeletal muscles were extensively destroyed by tissue of the same sort as that in the lymphatic glands. In these three instances the destructive changes occurred respectively in the intercostal and pectoral muscles, in the pectorals and *psoas magnus* and in the muscles of the forearm. One of these cases presented some interesting features. The abdominal lymphatic glands were enormously enlarged and were regarded as being the site of the primary manifestations of the disease. The thoracic glands were also enlarged and thickening of the left pleura had occurred. Penetration of the chest wall had taken place and given rise to infiltration of the intercostal and pectoral muscles. Empyema occurred and a large quantity of thick pus was removed by thoracotomy. Dr. Symmers regards this as a unique feature. Histological examination of the affected muscles revealed the presence of cells identical with those found in the glands. They were strewn between the muscle bundles in such a way as to push them apart or to destroy and replace them.

Dr. Symmers's communication is of practical interest and importance. While his series of cases is too small to allow the adoption of any definite conclusions in regard to the frequency of occurrence of the various types of the disease, he has drawn attention in an able and scholarly fashion to several of its aspects which are frequently overlooked. He has also discussed the nature of Hodgkin's disease. Reference will be made to this in a future issue.

Abstracts from Current Medical Literature.

MEDICINE.

Cutaneous Hyperæsthesia.

Z. COPE (*The Lancet*, January 19, 1924) describes his investigations into the frequency of occurrence of cutaneous abdominal hyperæsthesia in acute inflammatory conditions of the abdominal viscera. Sherren and Robinson recorded previously some experiences in this respect, but used slightly different methods in estimating the degree of hyperæsthesia. Cope tested the sensitiveness by means of stroking with a pin or pinching the skin lightly. He found no hyperæsthesia associated with strangulated external herniæ. In acute appendicitis hyperæsthesia occurred in one hundred and ten among one hundred and eighty-five patients. The skin area involved was that supplied from the tenth, eleventh or twelfth dorsal segments. Sometimes the area of hyperæsthesia was triangular in shape, but this varied considerably and generally the area was not regular. It was usually confined to the right side, but not invariably. Sometimes it extended to the back. The situation of the appendix did not appear to cause any variation in the site of hyperæsthesia; it was not possible to distinguish between a normally placed and a pelvic appendix by this means. In only five out of nineteen cases of gastric and duodenal ulceration (with perforation) did skin hyperæsthesia occur; in all but one the area affected was just above the right Poupart's ligament (twelfth dorsal segment). In only six patients out of sixteen with acute disease of the biliary tract did hyperæsthesia occur. In these the area involved corresponded to the ninth dorsal or to the twelfth dorsal segment in the latter causing a broad band (five to seven and a half centimetres) of hyperæsthesia just above Poupart's ligament on the right side. In primary peritonitis there was an extensive area of cutaneous hyperæsthesia in each of five patients. In acute intestinal obstruction hyperæsthesia was rare (four out of twenty-five). In salpingitis, inflamed ovarian cyst and renal colic hyperæsthesia was found. Cope considered that this hyperæsthesia could almost always be taken as signifying inflammation or irritation of a viscus or of some part of the peritoneum: absence of hyperæsthesia was of no significance. Hyperæsthesia was more common below the age of forty years. The hyperæsthesia passes off in a few days, sometimes not for a fortnight. In one hundred and twenty-two out of one hundred and thirty-six patients with hyperæsthesia the left side of the abdomen was normal. In the majority of these there was right-sided peritonitis. The explanation of the hyperæsthesia just above Poupart's ligament in gall bladder disease may be that the peritoneum in the right iliac fossa or pelvis is inflamed in most of these individuals. In acute appendicitis a band of anæsthesia was sometimes found extending from the mid-line in front to the spinal column behind, this area mostly corresponded to the tenth dorsal segment.

Disease of Biliary Apparatus.

W. J. MAYO (*Illinois Medical Journal*, January, 1924) discusses the relationship between infections of the gall bladder and disease of the heart, joints, pancreas, appendix and liver. He points out that heart disease is frequently associated with infection of the gall bladder and that drainage of the gall bladder in some patients produces an improvement in the cardiac condition. It is possible that in some instances the gall bladder acts as a focus of infection causing aggravation of the heart disease. Heart disease is a very rare cause of death after surgical operations, only three out of two hundred and ninety among patients whose surgical condition was complicated by heart disease, were due to heart failure. Arthritis may also be due to a focus of infection in the gall bladder; remarkable relief occasionally follows operations for gall stones in patients with obscure painful affections of the joints and muscles. The author states that coincident acute infection of appendix and gall bladder is not uncommon and that death may follow failure to deal with either of the infected organs. Pancreatitis is usually associated with cholecystitis and gall stones. The stones should be removed and the gall bladder drained. Gall bladder disease is a common cause of biliary cirrhosis, but is not obviously related to portal cirrhosis. Even during late stages in biliary cirrhosis prolonged drainage of the gall bladder and removal of gall stones may prove beneficial.

Meat Diet and Renal Injury.

L. H. NEWBURGH AND SARAH CLARKSON (*Archives of Internal Medicine*, December 15, 1923) have found that the majority of rabbits fed on a diet containing 27% or more of protein, suffer from a chronic lesion of the kidneys. They advance evidence to show that the injury caused by the diet is either solely attributable to the excessive excretion of amino-acids or to this factor in part and in part to the acid character of the urine. They do not claim that this nephrotherapy in rabbits is the anatomical analogue of human chronic nephritis, but are of opinion that the human kidney may be injured by a diet containing protein in excess.

Rheumatic Carditis.

MARTIN O. RAVEN (*The Lancet*, December 8, 1923) in a review of the present knowledge of rheumatic disease of the heart, states that the high incidence of acute rheumatism is not only attributable to family predisposition, bad housing and damp, but also to the infectious nature of the malady. Hence isolation of rheumatic patients is advisable. A prolonged rest in the country minimizes the likelihood of recurrence of rheumatism and of the onset of cardiac disease. Tonsillectomy helps largely to check the recurrence of acute rheumatism and rheumatic pains; it is less effective in chorea. During attacks of either rheumatism or its analogue, chorea, prolonged rest in bed and a milk diet are essential. Salicylate of soda in full doses with double the quantity of bicarbonate of soda should be given to all patients suffering from relapse especially when pains are present. Arsenic should be given over a prolonged period to patients with chorea, iron and hæmoglobin when anæmia is present during the long convalescent stage, the tincture of digitalis in moderate or large doses to patients with recent or active myocarditis, and opium in combination with digitalis when pericardial adhesion leads to great excitability of the heart. Long time and great care are necessary to effect a cure in rheumatic disease. Even among the well-to-do many cases of a fatal and crippling type occur, because sufficient rest has not been persisted in at the onset. The fact that a child may not feel ill till the heart has suffered irretrievable damage points to the need for constant supervision of the heart in the early stages of rheumatic infection.

Syphilis Complicating Tuberculosis.

A. K. BOWMAN (*The Lancet*, December 15, 1923) has formed the opinion that syphilis is no more frequent among the tuberculous than among the non-tuberculous population. Syphilis of the lungs as an isolated disease is very rare, but patients, recognized as tuberculous, whose blood responds to the Wassermann test are probably suffering from combined syphilis and tuberculosis of the lungs. When syphilis and tuberculosis co-exist in the same individual, the administration of "Salvarsan" or its analogues may be followed by disaster. If organic arsenic be used, it should be administered in very small doses and at wide time intervals. The occurrence of focal or general reactions indicates temporary suspension of arsenical medication. Failure to observe this caution may lead to an acute exacerbation of the tuberculous process.

The Prognostic Value of Anæmia in Nephritis.

G. E. BROWN AND GRACE M. ROTH (*The Journal of the American Medical Association*, December 8, 1923) argue that a close relationship exists between creatinin retention and anæmia in chronic glomerular nephritis and that impairment of the function of the bone marrow is in some way parallel to the degree of degeneration of the kidneys in the late stages of the disease. The relationship between creatinin retention and anæmia is an inverse one. Patients whose blood creatinin values are high, manifest

correspondingly low hæmoglobin values and erythrocyte counts. It is suggested that the bone marrow partakes of the generalized injury to the tissues, though at times the injury to the bone marrow is disproportionate to that sustained by the kidneys and *vice versa*. Myers and his associates have shown that a high level of creatinin in the blood (five milligrammes or more for each hundred cubic centimetres) indicates a very grave prognosis. The same serious prognostic significance attaches to a hæmoglobin value of 60% or less.

Hypertension and Hyperglycæmia.

W. W. HERRICK (*The Journal of the American Medical Association*, December 8, 1923) states that hyperglycæmia is a feature of a considerable proportion (probably 10% to 30%) of cases of arterial hypertension. It is more common when the high blood pressure is not associated with obvious disease of the kidneys. This association of high arterial tension and excess of glucose in the blood is most common in those persons who are obese and have evidence of arterio-sclerosis. The cause of the hyperglycæmia is unknown, but an undoubted cause in some cases is the excessive use of carbohydrate food, the result of unwise restriction of protein. When the subject of arterial hypertension is obese, carbo-hydrate is probably a more dangerous food element than protein. Protein should not be restricted unless incompetence of the kidneys for the products of nitrogenous catabolism is demonstrated. Prolonged hyperglycæmia may cause arterio-sclerosis and raise the arterial pressure, whereas the reduction of the blood sugar to a normal level and its maintenance at that level are usually followed by a significant depression of the blood pressure curve.

Reflexes in Pulmonary Tuberculosis.

F. M. POTTENGER (*Medical Journal and Record*, February 20, 1924) discusses the value of certain reflex symptoms and signs in the diagnosis of pulmonary tuberculosis. He points out that inflammatory lesions of viscera give rise reflexly to certain signs such as pain and rigidity of muscles. Inflammatory lesions of the lungs or pleuræ give rise to similar reflex phenomena, especially to spasm of muscles, limitation of movement of the chest wall, pain and wasting of muscles. The muscles most commonly affected are sterno-mastoid, trapezius, pectorals, *levator anguli scapulæ*, rhomboidei, scoleni and the diaphragm. Pottenger states that sensory impulses from the lungs are conveyed to the spinal cord and are carried up the cord to mediate with motor and sensory neurones in the cervical region of the cord. This he states is due to the fact that the lungs embryologically are given off from segments anteriorly to the heart, aorta and other thoracic viscera and consequently their innervation is connected with the cervical region of the cord. Increased muscle tension may be detected in the muscles mentioned above by palpation with the patient in the erect posture. This increased tension of muscles gives rise to some extent to the limitation of movement of the chest wall commonly noted in pulmonary tuberculosis. Pain due to disease of the lung is referred to the superficial tissues of the body, the lung itself being unable to give rise to the sensation of pain. The abdominal viscera and the aorta similarly give rise to superficial pain as explained by Mackenzie. The areas most commonly affected by this viscero-sensory reflex are those supplied by the cervical nerves and the upper four or five thoracic nerves. Tenderness on pressure and other sensory changes may often be noted together with hypersensitiveness of the skin and changes in the heat, cold and touch perception. Pleural pain, contrary to pain due to affection of the lung, is expressed in the same segments of the cord that receive the afferent stimuli from the organ. Hence pleural pain may be expressed in any of the intercostal nerves from the clavicle to the costal border below. Diaphragmatic pleurisy is often expressed by abdominal pain. Trophic influences (due to reflex phenomena) arise frequently in pulmonary tuberculosis. Thinning of the skin and subcutaneous tissues and atrophy of muscles supplied from cervical segments of the cord are common and loss of elasticity of the tissues in these areas on palpation can frequently be detected. These reflex phenomena, muscle spasm, pain, tenness and atrophy and less of elasticity of superficial tissues in the areas supplied from cervical segments of the cord are accurate signs of past or present disease in the lung.

Lung Abscess.

L. B. MACKENZIE (*Medical Journal and Record*, February 20, 1924) records some investigations made in connexion with abscess of the lung. One hundred and sixty-nine patients suffering with lung abscess were admitted to the Bellevue Hospital between 1918 and 1922. Sixty-seven of these patients died; broncho-pneumonia and tonsillectomy were the most frequent causes. *Post-mortem* statistics showed that lung abscesses were not infrequently overlooked during life, the correct diagnosis having been made in only sixty-seven out of eighty-six patients in whom abscess of the lung was found *post-mortem*. Many of the unrecognized abscesses occured during the course of pneumonia, infective endocarditis or sepsis. The frequency of lung abscess after tonsillectomy has been attributed to inhalation of infected material, embolism from spread from glands of the neck to bronchial glands. Lung abscess has been more frequent since tonsillectomy replaced tonsillotomy at the Bellevue Hospital and also since the introduction of the intra-tracheal method of producing anæsthesia by motors. Pain in the chest, fever and expectoration of considerable quantities of foul sputum are the common symptoms. The clinical signs are variable, there may be only dulness and a few moist rôles. X-ray examination and the continued absence of tubercle bacilli from the sputum are helpful. In some instances spontaneous cure results; this is rare after six months. The best treatment apart from rest is the production of an artificial pneumothorax if the condition does not heal in three or four weeks. If delayed longer, pleural adhesions may form and prevent obliteration of the cavity. The alternative procedure is rib resection and the formation of a lung fistula. Bronchoscopy for the purposes of treatment is not advisable and lobectomy is too dangerous an operation to be recommended.

Hereditary Hæmoptysis.

EMANUEL LIBMAN AND REUBEN OTTENBERG (*The Journal of the American Medical Association*, December 15. 1923) have described under the caption "hereditary hæmoptysis" a new form of hereditary hæmorrhagic disease distinct from the two established disease-states known as hæmophilia and multiple telangiectasis. Seven members of a family presented identical histories of rather profuse hæmoptyses occurring at irregular intervals for several years. The hæmorrhages commenced at puberty and did not seriously impair the general health. Three of the sufferers were observed closely over a period of seven years and no evidence of pulmonary tuberculosis was discovered. No abnormality of the blood was apparent and telangiectasis of the upper air passages could not be found. The cause of the hæmoptyses remains unknown. The disease is apparently hereditary. It was observed in members of three successive generations and males and females were equally prone. The authors suggest that the hæmoptysis may be a dominant according to the Mendelian hypothesis.

The Ætiology of Scarlet Fever.

GEORGE F. DICK AND GLADYS HENRY DICK (*The Journal of the American Medical Association*, January 26, 1924) refer to investigations carried out by them in 1922 and 1923 in which hæmolytic streptococci were isolated by them from one hundred patients suffering from scarlet fever. Of these strains 16% fermented mannite and 84% did not ferment mannite. In 1923 they reported the production of experimental scarlet fever by one of the strains that fermented mannite. They now report the production of experimental scarlet fever by a streptococcus that did not ferment mannite in a woman aged twenty-two years. The illness ran a typical course. They point out that the streptococci used in their experiments have fulfilled all the requirements of Koch's laws and state that it may be concluded that they cause scarlet fever.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Playhouse, Princes' Bridge, Melbourne, on March 26, 1924, DR. J. W. DUNBAR HOOPER, the PRESIDENT, in the chair.

The Council of the Branch had invited members of the Branch and their wives to be present and had sent invitations to members of the committees of the various hospitals and those interested in hospital management. Despite unfavourable weather conditions a large audience assembled.

The PRESIDENT introduced DR. W. J. MAYO, DR. FRANKLIN MARTIN, President of the American College of Surgeons, DR. RICHARD HARTE, Professor of Surgery in the University of Pennsylvania, and DR. RICHARD SMITH, of Grand Rapids, Michigan.

Hospital Standardization.

DR. FRANKLIN MARTIN delivered an addres on hospital standardization. He traced the history of the American College of Surgeons and indicated the rigorous standard required as qualification for admission to that body. He showed that it had been one of the activities of the College of Surgeons to define and advocate a certain minimum establishment for hospitals and that while in the early stages of the movement a small proportion only of the hospitals in America conformed to such establishment, at the present time the great majority fulfilled the requirements and had thus become entitled to be placed on the approved list.

DR. W. J. MAYO followed and developed the idea of the community hospital. By the establishment of such hospitals into which all classes could obtain admission and pay fees according to their means, provision was made for the "great middle class" which fared very badly under the system by which hospitals were reserved for the sick poor.

Brief addresses were also delivered by DR. RICHARD HARTE and DR. R. R. SMITH.

A vote of thanks to the lecturers, proposed by DR. STANLEY ARGYLE and seconded by DR. H. DOUGLAS STEPHENS was carried by enthusiastic acclamation.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held on the Anatomy Lecture Theatre, University of Sydney, on April 2, 1924, DR. ANDREW DAVIDSON, the PRESIDENT, in the chair.

Hospital Standardization.

DR. FRANKLIN MARTIN, Director of the American College of Surgeons, delivered a lecture on hospital standardization (see page 457).

DR. WILLIAM MAYO (Rochester, United States of America) said that as one of the founders of the American College of Surgeons it had been a great pleasure to receive the advice of the Royal College of Surgeons of England, Ireland and Scotland from such men as Moynihan, Godlee and Stiles. What they had tried to do in America was to get a style which would appeal to a new country and what had been wanted was something which would be of use to the people. They had required that a man to be admitted to the American College of Surgeons should possess an adequate amount of wisdom. In examinations it was necessary for the man to have knowledge and not wisdom. Examinations burned a man up and left nothing behind. If he had not got wisdom he could not get into the College. The point taken into consideration was what he could do for his patient. They did not arrogate to themselves that they could review all the work in all the hospitals. This was not possible, but they could make men work hard and make it hard for them to get into the College. The College which served one hundred and twenty million people, tried to secure competent men. They realized that wisdom came only with years and there was no way of judging a man's future except by his past achievements—they were not clairvoyants. It was true that in fifteen years the second half of the men on an examination pass list would do as well as those of the first half. At the same time it was necessary to have examinations, they were unavoidable. The American College of Surgeons had thus decided to make a man wait for eight years before his admission to the College. Dr. Mayo thought that the period probably should have been ten years. They expected that after eight years graduates would have shown whether they were workers and whether they were engaged in pursuits valuable to the community. If not, they could not get into the College.

Dr. Mayo then referred to the question of hospital standardization and in doing so paid a tribute to Dr. Franklin Martin. Dr. Martin had had vision and the courage necessary to push the thing through. Dr. Mayo often looked for scars on Dr. Martin's body and soul, but could not find them. It reminded Dr. Mayo of a woman whose neighbours had called in the police because she had been beaten by her husband. The woman had said that her husband was not really a bad man for he did not hit her where it would show. Dr. Martin might have scars, but he did not show them. Dr. Mayo asked his audience to imagine how they had been received in the beginning of their work on hospital standardization when they had suggested that the records of certain institutions should be investigated. Permission had been refused. Later on owing to the force of public opinion and the weight of authority of the College of Surgeons investigation had been accepted and often requested. He then referred to the purpose of the foundation of a hospital. Some philosopher—he did not know who it was—had made the remark that the Lord must love the common people because He had made so many of them. Dr. Mayo held that they did not get a fair show. It was time that something was done for them. He had seen many good hospitals in Australia and New Zealand for the fellow at the bottom and also for the one at the top. He thought that the deification of the unfit was the most remarkable phenomenon of modern times. As far as he had been able to see there were not in Australian hospitals many persons who could pay for both hospital and doctor. Why should not such an individual have as good a place to go to when sick as the poor man? If a man could pay, he had to go to a place which was not provided with the same equipment as the larger institutions. Was he getting a square deal? Dr. Mayo did not think so. He did not wish to make comparisons, but wished to refer to the community hospital system that had been organized in the United States. Dr. Mayo described the system briefly and said that the State did not tax these hospitals and allowed them to import such things as they needed free of duty. When charity patients were sent into hospitals the immediate charge was paid for them by the county or the city, as the case might be. The doctor was glad to take charge of the charity patient, but he should not be pauperized and compelled to look after patients who could pay. Dr. Mayo had been informed that medical practitioners in Australia attending patients who could pay in public hospitals, were not allowed to receive payment. He thought this was wrong. The medical profession had allowed itself to be exploited. He had been informed that the remedy hoped for in Australia was that the Government would establish intermediate hospitals. This would not do in the United States. He felt that Government control often meant Government interference.

DR. RICHARD HARTE (Pennsylvania) said that he had been interested in hospitals since 1876. He thought that one reason why hospitals were not perfect was the fact that there was some misunderstanding as to what a hospital was supposed to do. A hospital was primarily a hotel for caring for the sick and wounded in the best possible way. The failure to get the best results in a hospital was often due to imperfect administration. The administration of a hospital was similar to that of any large organization. The crux of the whole situation was finance. Some hospitals had endowments, others were conducted for profit and others again were supported by the charitable community for which they existed. A State hospital had existed in Pennsylvania, but abuses

had crept in and State control had been abandoned. He held, however, that there was one class of institution which must of necessity be supplied by the State and that was the hospital for insane persons. The State was a necessary factor on account of the legal aspect of mental defects. Dr. Harte referred to the question of hospital boards. He said that individuals were often appointed to membership of such boards on account of their position in the community while they knew nothing of hospitals or their management. Such boards would often veto through ignorance an appropriation which had been recommended by the hospital staff. Nine-tenths of the patients in hospitals belonged to the poorer classes. What they required was good food, kind treatment, clean linen and the glad hand. He was afraid that when patients came into hospital a young and inexperienced medical officer often snapped them up. They required treatment with civility and consideration. The governing bodies should make an effort to understand the psychology of those within its walls. Such things as paint and polish, brass and marble did not lead to better results. He had seen good work done in surroundings of whitewash and deal boards.

DR. RICHARD R. SMITH (Michigan) said that he spoke from the standpoint of a surgeon and chief of staff. The hospital standardization scheme was not meant for hospitals either of one class or of one size. It was a nation-wide movement and included hospitals in large cities, medium-sized towns and country districts. The surgeon welcomed standardization. It had meant better service to the patient. Dr. Smith dealt briefly with the four essential points in hospital standardization—ethical qualifications, laboratories, staff meetings and records. This was the order of difficulty in attainment. The ethical qualification was easiest to obtain. Dr. Mayo had said that 85% of men were honest. Hospitals existed for the good of the patient and not of the doctor and it was their object to see that every patient was treated in a straightforward way and not exploited. In regard to laboratories Dr. Smith dwelt on the importance from the patient's point of view of the prompt reception of pathological reports. Proper staff meetings were more difficult to obtain. It was necessary at such gatherings to discuss both the good and the bad work. The records were the most difficult to obtain. Very few men kept records of their own work and fewer still kept records which approached the standard of good hospital records. Anyone could write a record, but it took a good man to write a good record.

DR. C. P. B. CLUBBE in proposing a vote of thanks to the several speakers characterized their remarks as extremely interesting. He contrasted briefly the hospital system of Australia with that which existed in America. He drew attention to the lack of hospital facilities in Australia for people of intermediate means.

PROFESSOR A. E. MILLS in a happy speech seconded the vote of thanks.

DR. R. WORRALL thought that it would put men in an invidious position to have to pass judgement on the work of one of their fellows. He did not agree that satisfactory team work could not be carried on in the private hospitals of Sydney. In the hospitals which he visited, it was quite possible to meet all the requirements in this regard.

DR. FRANKLIN MARTIN in his reply referred to the staff meetings. He said that it was found that members of the staff shared their responsibility more and more by means of consultation with their fellows on the staff. This led to closer team work. As a matter of fact serious adverse criticism was seldom necessary, but if it was found that a member of the staff was continually getting a mortality of say 11% in his surgery, it was the business of the other members of the staff to hurt his feelings. In regard to Dr. Worrall's claim that as good work could be done in private hospitals as in public institutions, this might be so, but it would entail much more trouble. He had seen some of the best private hospitals in Australia and some of the best work, but this had not been done with the same facility as in public hospitals.

DINNER TO DR. W. J. MAYO AND PARTY.

THE COUNCIL OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION AND THE MELBOURNE SURGICAL ASSOCIATION entertained Dr. Mayo and his party at dinner at the Hotel Windsor on Thursday evening, March 27, 1924.

The guests of honour were: DR. W. J. MAYO, DR. FRANKLIN MARTIN, DR. RICHARD HARTE, DR. R. R. SMITH and MR. B. KAHLER.

The following gentlemen were present at the invitation of the President of the Victorian Branch: The Honourable the Premier of the State of Victoria, MR. H. S. W. LAWSON; the Consul-General for the United States, MR. MAXWELL BLAKE; the Chancellor of the University of Melbourne, SIR JOHN MACFARLAND; the Acting-Dean of the Faculty of Medicine, PROFESSOR R. J. A. BERRY; PROFESSOR W. A. OSBORNE, SIR THOMAS LYLE, DR. R. R. STAWELL, DR. A. NORMAN MCARTHUR, DR. H. CAIRNS LLOYD, DR. R. H. MORRISON, DR. C. T. C. DE CRESPIGNY, DR. FRANK GODFREY.

Apologies for inability to accept the President's invitation were received from the Honourable the Treasurer of the Commonwealth, DR. EARLE PAGE; the LORD MAYOR, SIR HARRY ALLEN and MR. HAROLD CLAPP.

After the loyal toast had been honoured, the PRESIDENT proposed the health of DR. WM. MAYO, with whose name he coupled those of DR. R. R. SMITH and MR. B. KAHLER.

DR. HOOPER said that the hosts, the Council of the Victorian Branch of the British Medical Association and the members of the Melbourne Surgical Association were grateful to the Premier and the Chancellor of the University for their attendance to do honour to their distinguished guests. He assured Dr. Mayo that in proposing his health he also included his brother, Dr. Charles Mayo, in the tribute of very high regard and admiration for their life's work which it was the desire of al present to pay them. He would ask Dr. Mayo to convey to his brother their appreciation of the unfailing courtesy and kindness which had always been extended to Australian medical men visiting the Mayo Clinic.

He called on Mr. G. A. Syme, as Chairman of the Federal Committee of the British Medical Association in Australia, to support the toast.

MR. G. A. SYME said that in his capacity of Chairman of the Federal Committee he could speak for the whole British Medical Association in Australia in extending a very hearty welcome to Dr. Mayo and his colleagues.

He anticipated that their visit would result in much benefit to medical institutions and to the medical profession in Victoria. He cordially endorsed the sentiments expressed by the President with reference to the great work of Drs. William and Charles Mayo and their kindness to medical men who wished to profit by the work of the Mayo Clinic.

In the course of his remarks Mr. Syme described Rochester as a surgical Mecca, regarding which pilgrims in surgery the world over cried: "There is only one clinic and Mayo is its prophet."

In Dr. William Mayo they had seen the simplicity and quiet dignity which always marked true greatness. The Mayo brothers were more than great surgeons; they were great administrators and exemplars of the value of co-operation. They were men with the highest ideals of the obligations of the medical profession, of research, medical education and social and community service. They were in the proud position of having seen some of their ideals realized in the Mayo Clinic and the Mayo Foundation.

In conclusion Mr. Syme expressed the hope that the visit of their guests would assist in strengthening the "crimson tie of kinship" which existed between the American and Australian peoples.

DR. WILLIAM MAYO, in acknowledging the very cordial reception of the toast, expressed his thanks for the great kindness shown himself and his colleagues since their arrival in Melbourne. He was particularly touched by the kindly feeling which prompted the inclusion of his brother's name in the toast, and while he had not expected to bring a personal note into his remarks, as a tribute to his brother he might tell something of his early aspirations.

Dr. Mayo then to the intense interest of his audience sketched the history of the Mayo Clinic, the ideals which the brothers had pursued with respect to medical education, post-graduate training and research and the association of the Clinic with the University of Minnesota.

He concluded with a graceful asknowledgment of the hospitality shown him in Melbourne.

The toast of the health of DR. FRANKLIN MARTIN, coupled with the name of DR. RICHARD HARTE, was proposed by MR. F. H. LANGLANDS, President of the Melbourne Surgical Association.

Brief response was made by DR. FRANKLIN MARTIN and DR. HARTE, after which the health of the PRESIDENT was proposed by DR. WILLIAM MAYO.

RECEPTION TO DR. MAYO AND PARTY.

MEMBERS OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION and their wives assembled at No. 9 Darling Street, South Yarra, Melbourne, on Thursday evening, March 27, 1924, to attend the reception organized by the Branch in honour of Dr. Mayo and the ladies and gentlemen comprising his party.

In the course of the evening DR. A. NORMAN MCARTHUR, on behalf of the Melbourne Medical Association, presented Dr. Mayo with a handsome box in Australian blackwood.

The function, which was of a very enjoyable character, provided opportunity for many medical men to meet Dr. Mayo.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

CLEMENT, EDITH, M.B., Ch.M., 1924 (Univ. Sydney), Shepardstown.

MAIN, JAMES NORMAN, M.B., Ch.M., 1924 (Univ. Sydney), Coronation Avenue, Eastwood.

THE undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

BARNET, THOMAS MCKAY, M.B., 1924 (Univ. Sydney), 31, Etham Avenue, Darling Point.

DELPRAT, THEODORE DANIEL, M.B., Ch.M., 1924 (Univ. Sydney), 66, Moruben Road, Mosman.

HAMILTON, ALEXANDER ROBERT, M.B., Ch.M., 1923 (Univ. Sydney, Launceston Hospital, Launceston.

HARRISON, ALFRED QUIRK OGILVIE, M.B., Ch.M., 1923 (Univ. Sydney), Sydney Hospital.

HOLLIDAY, RAY BOWMAN, M.B., Ch.M., 1923 (Univ. Sydney), 29, Norton Street, Leichhardt.

HUDSON, KENNETH ALFRED KNIGHT, M.B., 1924 (Univ. Sydney), Ocean Road, Manly.

LEE BROWN, ROBERT KINGSBURY, M.B., Mast. Surg., 1920 (Univ. Sydney), 139, Macquarie Street, Sydney.

MANTON, WILLIAM KILDARE, M.B., Ch.M., 1922 (Univ. Sydney), c.o. Dr. D. Christie, Queanbeyan.

SHINEBERG, SOLOMON, M.B., Ch.M., 1923 (Univ. Sydney), Sydney Hospital.

STEEL, ROBERT STANLEY, M.B., Ch.M., 1923 (Univ. Sydney), Tryon Road, Lindfield.

Obituary.

VINCENZO GREGORIO MARANO.

THE death of Dr. Vincenzo Gregorio Marano which was announced in our issue of April 19, 1924, was the occasion of much regret, more particularly amongst the senior members of the medical profession in New South Wales.

Vincenzo Gregorio Marano was the son of the late Dr. Raffaelo Marano. He was born at Montella, Italy, in 1850. He received his medical education at the University of Naples and in 1871 became doctor of medicine of that University. In 1885 he was admitted to the degree of master of surgery at the same seat of learning. For one year after graduation he practised at San Francisco, California. Arriving in Australia in 1877, he went to Windsor, New South Wales, and here he practised for several years. Subsequently he moved to Sydney and built up a sound general practice which he carried on until his death. Of a quiet and retiring nature, he established himself in the affection of patients and friends alike. He was interested more especially in electro-therapeutics and wrote several papers on the subject. He was one of the foundation members of the New South Wales Branch of the British Medical Association and did much towards its satisfactory and permanent establishment. He contributed several articles to Italian journals on the treatment of ulcers and miners' phthisis. For some years he acted as consulting surgeon to the Sydney Benevolent Asylum. He was a member of many scientific societies and included in the list were the Royal Society, of Sydney, the Geographical Society of Italy, the Royal Institute and Circle Frentano Society of Science and Art and the Italian Society of Science, at Rome. For the latter three societies he was Australian correspondent. In recognition of his work the Geographical Society made him a fellow and the Frentano Society presented him with its gold medal and diploma.

Vincenzo Gregorio Marano rendered much faithful service to the country of his birth. For forty-two years he was Consul for Italy in New South Wales. His countrymen in the land of their adoption regarded him almost as a father. His sympathetic help was ever at their disposal. One example may be quoted in connexion with the ill-fated South Sea Expedition of the Marquis of Rey. It was owing to Marano's collaboration with the Government that the members of this expedition were settled on the Richmond River area where their homes are monuments to their industry and foresight. In recognition of his work as Consul he was the recipient of the Order of St. Maurizio and Lazaro. He was made "Official" and also Cavalier to the Crown of Italy. During the Great War much labour fell on his shoulders in connexion with the Italian recruits from Australia. For this and for his work in connexion with the Red Cross he received a silver medal. His recreations included fencing and shooting and his spare time was absorbed by his vineyard. By his death the medical profession has lost an honoured and esteemed member and Australia a citizen of whom she could well be proud.

DR. T. FIASCHI, D.S.O., writes:

"Dr. V. Marano, a friend to the greater number of medical men of the past generation, was less known to the young men of the present day. A serious illness of nineteen years had in his later life prevented him from taking an active part in the work of the British Medical Association. However, we must not forget that he was one of the pioneer members of the New South Wales Branch and that for many years he had done his share towards its development and progress.

"Dr. Marano endeared himself to us by his unfailing courtesy and gentleness and by his broad views on all matters medical, philosophical, political and social. A pleasant companion at all times, conversation with him was a refreshing exercise, for no topic could be discussed on which from his wide reading and experience he could not throw some brightness by some anecdote or happy quotation.

"As a medical practitioner he was a model of kindness to his patients, never failing in his interest for them; he dealt with them both with a grain of salt and a bushel of human sympathy. In his last years just when he most required strength, what with illness, financial losses and other troubles this failed him, but his courage and equanimity never gave way. He died in harness having worked at the practice of his profession up to a fortnight from his death. The example of his silent fortitude, bordering on heroism, will always be cherished by those few who knew him best."

THOMAS RICHARD MCKENNA.

WIDESPREAD regret was expressed in Brisbane at the death of Dr. Thomas Richard McKenna which was announced in our issue of April 26, 1924.

Thomas Richard McKenna was born thirty-one years ago in South Brisbane. He was the son of the late Michael McKenna and received his early education in the first place at the Christian Brothers' College, Gregory Terrace,

Brisbane, and later at Saint Ignatius' College, Sydney. His medical education was obtained at Edinburgh University. He became a licentiate of the Royal College of Physicians and Surgeons of Edinburgh in 1907 and in the same year a licentiate of the Faculty of Physicians and Surgeons of Glasgow. In 1909 he became a fellow of the Royal College of Surgeons of Edinburgh. During his student days at Edinburgh where he was a leading member of the Australasian Club, he was noted for his strong personality and sound common sense.

On his return to Australia Thomas Richard McKenna took up practice in Brisbane. His confident and quiet manner endeared him to his patients and laid the foundation for his successful and extensive practice. During the war he became honorary assistant gynæcologist to the Brisbane General Hospital. Subsequently he became one of the senior physicians to the Hospital and held this appointment until his death. He was a member of the Council of the Medical Defence Society for a number of years and in 1923 was elected as its president.

Thomas Richard McKenna was popular with his brother practitioners and made many friends at the Johnsonian Club of which he was a past president. He is survived by a widow and child and for them much sympathy will be felt by members of the medical profession.

Correspondence.

THE USE OF ATROPINE.

SIR: At nine a.m. on All Fools' Day I was summoned to attend a man who was stated to be dying on the roadside five miles from my surgery. I hurried to the spot and found an adult man lying face downwards on the ground the face being covered with ants. He was quite unconscious with almost imperceptible respirations and scarcely palpable pulse. He was deeply cyanosed with insensitive conjunctivæ and pin-point pupils and by his side was a razor and a six-ounce empty bottle labelled "Paraldehyde."

I hurried him to hospital and promptly washed out his stomach, the contents of which were mostly paraldehyde, and left a pint of hot black coffee in the stomach. Warmth was applied to the body and one cubic centimetre of "Pituitrin" and one-thirtieth grain strychnine were given by hypodermic injection. A mustard leaf was applied over the heart.

At 2 p.m. respiratory distress accompanied by formation of much mucus occurred. I gave at once 1/50 atropine which gave prompt amelioration of these signs. At 7 p.m. another similar attack took place which yielded to 1/100 atropine. The temperature was now 103° F. A rectal saline was given.

At 2 o'clock on the following morning he sat up in bed and said, "Where am I?" He was quite conscious. At 7 a.m. he got restless and excitable, so 1/100 of hyocine was given. The temperature was now normal. I was able to send him to Kenmore Mental Hospital on the following day.

I thought the atropine was the cause of his prompt recovery and would not hesitate to push it under similar circumstances.

Yours, etc.,

ARTHUR WATKINS.

Griffith, New South Wales,
Undated.

Naval and Military.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, No. 24, of Auril 24, 1914:

Permanent Naval Forces of the Commonwealth (Sea-Going Forces).

Appointments—SURGEON COMMANDER CHARLES ARTHUR GAYER PHIPPS is appointed Director of Naval Medical Services, with salary at the rate of £1,000 *per annum*, inclusive of all allowances, except travelling, and with the rank of Surgeon Captain, dated 24th November, 1923.

Confirmation in Rank—SURGEON COMMANDER (PROVISIONAL) LEONARD DARBY, M.B., Ch.B., is confirmed in the rank of Surgeon Commander, with seniority in rank of 1st April, 1922.

Transfer to Retired List—SURGEON-LIEUTENANT ARTHUR NEVILLE ST. GEORGE BURKITT is transferred to the Retired List, dated 22nd November, 1919. (That portion of Executive Minute No. 1/1920—notice of which appeared on page 33 of the *Commonwealth Gazette*, No. 4, of 15th January, 1920—relating to the termination of the appointment of this officer is hereby cancelled.)

Termination of Appointment.

The temporary appointment of SURGEON CAPTAIN EDWARD THOMAS PHILIP EAMES, R.N., Retired, is terminated, dated 3rd April, 1924.

Citizen Naval Forces of the Commonwealth.

Royal Australian Naval Reserve.

Transfer to Retired List—SURGEON-COMMANDER BEDLINGTON HOWEL MORRIS is transferred to the Retired List, dated 22nd April, 1923. (Ex. Min. 64.)

Australian Military Forces.

FIRST MILITARY DISTRICT.

Australian Army Medical Corps Reserve.

HONORARY CAPTAIN J. H. MACARTHUR is transferred to the Reserve of Officers, 2nd Military District, and to be Captain, 1st April, 1924; HONORARY CAPTAIN A. J. MCDONNELL is retired under the provisions of Australian Military Regulation 152 (1), 7th March, 1924.

SECOND MILITARY DISTRICT.

Australian Army Medical Corps.

To be Captain (provisionally)—EDMUND MACARTHUR SHEPPARD, 10th March, 1924.

Australian Army Medical Corps Reserve.

HONORARY CAPTAIN G. W. F. PAUL is retired under the provisions of Australian Military Regulation 152 (1), 1st March, 1924.

THIRD MILITARY DISTRICT.

Australian Army Medical Corps Reserve.

HONORARY MAJOR J. F. WILKINSON is retired under the provisions of Australian Military Regulation 152 (1), 13th April, 1924.

SIXTH MILITARY DISTRICT.

Australian Army Medical Corps Reserve.

HONORARY CAPTAIN G. F. READ is retired under the provisions of Australian Military Regulation 152 (1), 25th March, 1924.—(Ex. Min. 71.)

Proceedings of the Australian Medical Boards.

TASMANIA.

THE undermentioned have been registered, under the provisions of the *Medical Act, 1918*, as duly qualified medical practitioners:

FITZPATRICK, DAVID IMRIE, M.B., B.S., 1923 (Univ. Melbourne), New Norfolk.

WILLIS, RUPERT ALLAN, M.B., B.S., 1922 (Univ. Melbourne), Lilydale.

Books Received.

THE OLD DOCTOR, by Frank G. Layton, M.R.C.S., L.R.C.P., 1923. Birmingham: Cornish Brothers, Limited; Sydney: Angus and Robertson, Limited; Crown 8vo., pp. 170. Price: 6s. net.

JUN 21 1924

THE PARATHYROID GLANDS IN RELATION TO DISEASE, by H. W. C. Vines, M.A., M.D.; 1924. London: A. Edward Arnold and Company; Demy 8vo., pp. 135. Price: 10s. 6d. net.

THE ANTIDIABETIC FUNCTIONS OF THE PANCREAS AND THE SUCCESSFUL ISOLATION OF THE ANTI-DIABETIC HORMONE—INSULIN, by J. J. R. Macleod and F. G. Banting, being Series Number Two of the Beaumont Foundation Lectures at Detroit, Michigan, U.S.A.; 1923. St. Louis, U.S.A.: The C. V. Mosby Company; Post 8vo., pp. 69. with four figures. Price: $1.50.

RADIUM REPORT OF THE MEMORIAL HOSPITAL, NEW YORK, by Various Contributors (Second Series, 1923); 1924. New York: Paul B. Hoeber, Incorporated; Demy 8vo., pp. 305, with 55 illustrations. Price: $5.00.

A PRACTICAL TEXT-BOOK OF INFECTION, IMMUNITY AND BIOLOGIC THERAPY, WITH SPECIAL REFERENCE TO IMMUNOLOGIC TECHNIC, by John A. Kolmer, M.D., D.P.H., D.Sc. (Hon.), with an Introduction by Allen J. Smith, M.D., Sc.D., LL.D.; Third Edition, Thoroughly Revised and Mostly Rewritten; 1924. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; Royal 8vo., pp. 1210, with 202 illustrations of which 51 are in colour. Price: 60s. net.

OPERATIVE SURGERY, COVERING THE OPERATIVE TECHNIC INVOLVED IN THE OPERATIONS OF GENERAL AND SPECIAL SURGERY, by Warren Stone Bickham, M.D. and Phar.M. (Tulane), M.D. (Columbia), F.A.C.S.; in Two Volumes; 1924. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; trations; Volume II., pp. 877, with 1,008 illustrations. Royal 8vo.; Volume I., pp. 850, with 921 illustrations; Volume II., pp. 877, with 1,008 illustrations. Price: 50s. net each volume.

APPLIED PATHOLOGY IN DISEASES OF THE NOSE, THROAT AND EAR, by Joseph C. Beck, M.D., F.A.C.S.; 1923. St. Louis: C. V. Mosby Company; Crown 4to.. pp. 280, with 268 original illustrations, including four coloured plates. Price: $7.50.

METHODS IN MEDICINE: THE MANUAL OF THE MEDICAL SERVICE OF GEORGE DOCK, M.D., Sc.D., by George R. Herrmann, M.D., Ph.D.; 1924. St. Louis: The C. V. Mosby Company; Royal 8vo., pp. 521, with illustrations. Price: $6.50.

INSANITY IN EVERY-DAY PRACTICE, by E. G. Younger, (Brux.), M.R.C.P. (Lond.), D.P.H., Etc.; Fifth Edition, Revised and Edited by G. W. Smith, O.B.E., M.B., Ch.B. (Edin.); 1924. London: Baillière, Tindall and Cox; Crown 8vo., pp. 144. Price: 5s. net.

VENEREAL DISEASE: ITS PREVENTION, SYMPTOMS AND TREATMENT, by Hugh Wansey Bayly, M.C.; Second Edition; 1924. Sydney: Butterworth and Company; Royal 8vo., pp. 192, with 58 illustrations.

ALCOHOL: ITS ACTION ON THE HUMAN ORGANIZATION, Second Edition, Enlarged and Revised by the Medical Research Council; 1924. Edinburgh (120, George Street): His Majesty's Stationery Office; Crown 8vo., pp. 190. Price: 1s. net, paper cover; 1s. 6d. net. cloth bound.

Medical Appointments.

THE undermentioned have been appointed District Medical Officers and Public Vaccinators in Western Australia: DR. A. MARGARET CLARK (B.M.A.), at Kondinin; DR. L. MILLER CORBET (B.M.A.), at Pinjarra; DR. KATHLEEN E. PHIPPS, at Dalwallinu.

* * * *

DR. J. M. ROSS (B.M.A.) has been appointed Public Vaccinator at Rainbow, Victoria.

* * * *

DR. G. A. BROOKES (B.M.A.) has been appointed Honorary Ophthalmic Surgeon at the Rookwood State Hospital and Asylum, New South Wales.

* * * *

DR. E. C. CHISHOLM (B.M.A.) has been authorized by the Board of Health of New South Wales as an Inspector, at Comboyne, under the *Cattle Slaughtering and Diseased Animals and Meat Act, 1902.*

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii..

ADELAIDE CHILDREN'S HOSPITAL (INC.): Resident Medical Officer.

DEPARTMENT OF HEALTH, MELBOURNE: Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Society's Dispensary Friendly Society Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phœnix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

MAY 13.—New South Wales Branch, B.M.A.: Ethics Committee.
MAY 14.—Melbourne Pædiatric Society.
MAY 14.—Tasmanian Branch, B.M.A.: Branch.
MAY 14.—Central Northern Medical Association, New South Wales.
MAY 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAY 20.—Illawarra Suburbs Medical Association, New South Wales.
MAY 21.—Victorian Branch, B.M.A.: Council; Election of Representative on Representative Body.
MAY 21.—Western Australian Branch, B.M.A.: Branch.
MAY 23.—Queensland Branch, B.M.A.: Council.
MAY 23.—South Eastern Medical Association (Bulli), New South Wales.
MAY 27.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

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